

WILDLIFE OF THE HUNTINGTON WILDLIFE STATION

(Parts III to VI Inc.)

By

W. A. Dence, H. F. Heady, J. L. Lowe and A. H. Smith



Roosevelt Wildlife Bulletin

VOLUME 7

NUMBER 3

Published by the Roosevelt Wildlife Forest Experiment Station at the
New York State College of Forestry, Syracuse, N. Y.

SAMUEL N. SPRING, *Dean*

CONTENTS OF RECENT ROOSEVELT WILDLIFE BULLETINS AND ANNALS

BULLETINS

ROOSEVELT WILDLIFE BULLETIN, Vol. 5, No. 1. March, 1928.

1. A Preliminary Wild Life and Forest Survey of Southwestern Catta-
raugus Co., N. Y. Victor H. Cahalane
2. A Preliminary Report on the Trout Streams of Southwestern Catta-
raugus Co., N. Y. Wilford A. Dence
(Out of print)

ROOSEVELT WILDLIFE BULLETIN, Vol. 5, No. 2. February, 1929.

1. The Fishes of the Cranberry Lake Region.
W. C. Kendall and W. A. Dence
2. The Story of King's Pond. F. A. Lucas
3. Its Fish Cultural Significance. W. C. Kendall

ROOSEVELT WILDLIFE BULLETIN, Vol. 5, No. 3. September, 1929.

1. The Summer Birds of the Northern Adirondack Mountains.
Aretas A. Saunders
2. The Summer Birds of the Adirondacks in Franklin County, N. Y.
Theodore Roosevelt, Jr., and H. D. Minot
(Reprinted. Original date of publication, 1877)

ROOSEVELT WILDLIFE BULLETIN, Vol. 5, No. 4. August, 1930.

1. The Biology of the Voles of New York. Robert T. Hatt
2. The Relation of Mammals to the Harvard Forest. Robert T. Hatt

ROOSEVELT WILDLIFE BULLETIN, Vol. 6, No. 1. March, 1931.

1. A Biological Reconnaissance of the Peterboro Swamp and the Labrador
Pond Areas Charles J. Spiker

ROOSEVELT WILDLIFE BULLETIN, Vol. 6, No. 2. October, 1933.

1. The White-tailed Deer of the Adirondacks.
Part 1. Preliminary Survey of the White-tailed Deer of the Adiron-
dacks M. T. Townsend and M. W. Smith
Part 2. Ecology of the White-tailed Deer in Summer with Special
Reference to the Adirondacks.
M. T. Townsend and M. W. Smith
2. Some Late Winter and Early Spring Observations on the White-tailed
Deer of the Adirondacks Chas. J. Spiker

ROOSEVELT WILDLIFE BULLETIN, Vol. 6, No. 3. July, 1935.

1. A Popular Account of the Bird Life of the Finger Lakes Section of New
York, with Main Reference to the Summer Season. . Chas. J. Spiker

ROOSEVELT WILDLIFE BULLETIN, Vol. 6, No. 4. January, 1937.

- Wildlife of the Archer and Anna Huntington Wild Life Forest Station
1. Part I. Preliminary Reconnaissance of the Land Vertebrates of the
Archer and Anna Huntington Wild Life Forest Station.
Charles E. Johnson
 2. Part II. Preliminary Reconnaissance of the Waters of the Archer
and Anna Huntington Wild Life Forest Station and their Fish
Inhabitants. Wilford A. Dence

ROOSEVELT WILDLIFE BULLETIN, Vol. 7, No. 1. October, 1937.

1. The Effect of Deer Browsing on Certain Western Adirondack Forest
Types. John Pearce

ROOSEVELT WILDLIFE BULLETIN, Vol. 7, No. 2. October, 1939.

1. The Ecology and Economics of the Birds along the Northern Boundary
of New York State. A. Sidney Hyde

ERRATA

- Page 257, last line: for "Graminifolius"
read "graminifolius".
- Pages 293 and 294, under "Nymphaeaceae":
the order of the genera should be
"Brasenia, Nuphar, Nymphaea".
- Page 323, line 14 from bottom: for
"Vaccinium pensylvanicum Lam."
read "Vaccinium pensylvanicum Mill."
- Page 348, left column, line 4 from bottom:
for "memoralis" read "nemoralis".
- Page 350, left column, line 10 from bottom:
for "subluliacea" read "subloliacea".
- Page 355, right column, line 6: add "
369" after "Eel".
- Page 357, right column, line 5 from bottom:
add a comma after "Lungwort".
- Page 360, left column, line 8: entire line to
be transposed to follow "Paeony" as line
6.
Right column, line 4 from bottom:
"Plantaginales" to be flush with line
above.
- Page 361, right column, line 5 from bottom:
for "Fyrrolla" read "Fyrcla".
- Page 362, left column, last line: for
"villorsa" read "villosa".
- Page 366, right column, line 14 under "V":
put "spiralis" in italics.



Digitized by the Internet Archive
in 2015

WILDLIFE OF THE HUNTINGTON WILDLIFE STATION

(Parts III to VI Inc.)

By

W. A. Dence, H. F. Heady, J. L. Lowe and A. H. Smith



Roosevelt Wildlife Bulletin

VOLUME 7

NUMBER 3

Entered as second-class matter October 18, 1927, at the Post
Office at Syracuse, N. Y., under the
Act of August 24, 1912

ANNOUNCEMENT

The serial publications of the Roosevelt Wildlife Forest Experiment Station consist of the following:

1. Roosevelt Wildlife Bulletin.
2. Roosevelt Wildlife Annals.

The *Bulletin* is intended to include papers of general and popular interest on the various phases of forest wildlife, and the *Annals* those of a more technical nature or having a less widespread interest.

The editions of these publications are limited and do not permit of general free distribution. Exchanges are invited. Sale prices for the Station publications are based on the actual cost of printing and distribution in accordance with Chapter 220 of the Laws of 1933. Price lists will be furnished on request. All communications concerning publications should be addressed to

THE DIRECTOR AND EDITOR,
Roosevelt Wildlife Forest Experiment Station,
Syracuse, New York.

TRUSTEES OF THE NEW YORK STATE COLLEGE OF FORESTRY

EX OFFICIO

DR. WILLIAM P. GRAHAM, <i>Chancellor</i>	Syracuse University
DR. ERNEST E. COLE, <i>Commissioner of Education</i>	Albany, N. Y.
HON. LITHGOW OSBORNE, <i>Conservation Commissioner</i> ...	Albany, N. Y.

APPOINTED BY THE GOVERNOR

HON. CHARLES POLETTI, <i>Lieutenant-Governor</i>	Albany, N. Y.
HON. FRANCIS D. McCURN.....	Syracuse, N. Y.
HON. ALFRED E. SMITH.....	New York City
HON. WILLIAM H. KELLEY.....	Syracuse, N. Y.
MR. WILLIS H. MICHELL.....	Syracuse, N. Y.
MR. CHARLES A. UPSON.....	Lockport, N. Y.
HON. J. HENRY WALTERS.....	New York City
MR. GEORGE W. SISSON, JR.....	Potsdam, N. Y.
MR. GRANT ERNST.....	Syracuse, N. Y.

OFFICERS OF THE BOARD

HON. ALFRED E. SMITH.....	<i>President</i>
HON. WILLIAM H. KELLEY.....	<i>Vice-President</i>

HONORARY ADVISORY COUNCIL OF THE ROOSE- VELT WILDLIFE FOREST EXPERIMENT STATION

HON. THEODORE ROOSEVELT.....	New York City
MR. KERMIT ROOSEVELT	New York City
HON. GIFFORD PINCHOT	Harrisburg, Pa.
MR. CHAUNCEY J. HAMLIN	Buffalo, N. Y.
DR. GEORGE SHIRAS, 3rd	Washington, D. C.
DR. FRANK M. CHAPMAN	New York City
DEAN HENRY S. GRAVES	New Haven, Conn.

STAFF OF THE ROOSEVELT WILDLIFE FOREST EXPERIMENT STATION

SAMUEL N. SPRING, M.F.....Dean of the College

RALPH T. KING, M.A.....Director
 WILFORD A. DENCE, B.S.....Ichthyologist and Ass't Director
 WILLIAM L. WEBB, M.S.....Junior Forest Zoologist
 H. RUTH MERRILLSecretary

Temporary Appointments

The regular staff is frequently supplemented by temporary help, usually naturalists from specialized fields of biology. Likewise two or more graduate students majoring in the field of wildlife management are required to assist in the field projects that are in progress at the Huntington Wildlife Station in the Adirondacks.

GENERAL CONTENTS

	PAGE
Part III. Progress Report on a Study of the Dwarf Sucker (<i>Catostomus commersonnii utazwana</i>). W. A. Dence	221
Part IV. Annotated List of the Ferns and Flowering Plants of the Huntington Wildlife Station. H. F. Heady	234
Part V. A Preliminary List of the Lichens on the Hunt- ington Forest. Josiah L. Lowe.....	371
Part VI. A Preliminary List of the Fungi from the Hunting- ton Forest. Alexander H. Smith.....	383



Fig. 59. General view of the Huntington Forest from fire look-out tower on Goodnow Mountain. Rich Lake in foreground. Photo by Alec Proskin.

**PART III. PROGRESS REPORT ON A STUDY OF
THE DWARF SUCKER (*Catostomus
commersonnii utawana*)**

By

W. A. DENCE, *Assistant Director*

Roosevelt Wildlife Forest Experiment Station

Syracuse, New York

CONTENTS

	PAGE
Introduction	222
Locality	222
Purpose and method.....	224
Breeding	224
Sexual dimorphism	227
Experiments with marked fish.....	228
Ages	230
Associated fish	230
Abnormalities in fins	232
Casualties	233
References	233

INTRODUCTION

The dwarf form of the common sucker was discovered and described as a new species (*Catostomus utawana*) by Mather ('90). However, no one seriously recognized his designation, at least in writing, until Kendall and Dence ('29) reported on their finding quantities of small but adult suckers in certain tributary streams of Cranberry Lake. These authors were immediately impressed with the similarity of the small suckers to those described by Mather and deemed it advisable to adopt his terminology. More recently other scientists (Greeley and Greene '31; Greeley and Bishop '32; Dence '37) working in the Adirondacks region also have collected this form but have designated it as a sub-species of the common sucker, because certain specimens show intergradations between normal common suckers and the typical dwarf form.

The dwarf sucker is so variable, even in the same watershed, that perhaps it really should be considered only a sub-species of *comersonnii*, at least until much additional data are available.

The writer is especially grateful to Mr. O. W. Oja, Forest Supervisor of the Huntington Forest, who very graciously and ably assisted him both seasons when regular help was unavailable.

LOCALITY

The fish upon which this report is based are from Wolf Lake, which is wholly within the boundaries of the Huntington Wildlife Forest Experiment Station tract at Newcomb, N. Y. The dwarf suckers of Catlin Lake about three miles to the north and on the same watershed, are consistently larger. Again those from Rich Lake about three miles to the south of Wolf Lake are even larger than those of Catlin Lake. There is a corresponding difference in spawning date—the larger forms spawning earlier than the Wolf Lake form.

Since no hunting, fishing or trespassing of any sort is permitted on the Huntington Wildlife Forest Experiment Station property and since certain waters within the tract support an abundant dwarf sucker population the author availed himself of the unusual opportunity to conduct studies on this sucker with the full assurance that the results would not be affected in any manner through human interference.

Wolf Lake was chosen for the first part of the study because it supported an abundant dwarf sucker population that utilized a



Fig. 60. Collecting pool for dwarf suckers in North Inlet of Wolf Pond. Several hundred suckers congregate in this pool throughout the spawning season.



Fig. 61. Spawning area of dwarf suckers in North Inlet of Wolf Pond. The fish were unable to get beyond the barrier of logs, sticks, etc., shown in the background.

tributary on the north end and another on the south end for spawning purposes. Both of these streams are small and sufficiently free from obstructions and débris to permit easy netting. As a matter of fact the fish were captured with ease through the use of a small common sense minnow seine (Fig. 60). During the peak of the run a hundred or more could be taken with a single sweep of the seine. No other lake on the tract offered such a unique set-up for a study like this.

PURPOSE AND METHOD

The study was inaugurated for the express purpose of obtaining data on sex ratios, ages, spawning habits and migration, but incidentally for any other phase of the life history and habits that might be forthcoming. Data of this sort are very essential in establishing the ecology and the economic relations of the fish with reference to the general biota of the waters on this tract as well as for the waters of the entire Adirondacks region.

The fish were marked by using a combination of fin removals which differentiated the fish from each stream and for each season. A total of 3937 fish were marked in this manner during the two seasons—1996 in the 1938 season and 1977 in the 1939 season. During the second season 647 of those marked the previous year were recovered and given a new designation, making a total of 2624 fish for that year.

Wolf Lake has several small tributaries but only two of them are permanent throughout the year. For convenience these are hereafter referred to as "North Inlet" and "South Inlet", respectively, since they are on the opposite ends of the lake which extends in a north-south direction. The outlet leaves the lake only a few rods west of the point where the North Inlet enters but the dwarf suckers have never been observed there. Thus, in so far as Wolf Lake is concerned, dwarf suckers enter only the inlets on their spawning migrations. By way of comparison it may be mentioned that the common shiner (*Notropis cornutus cornutus*) of Wolf Lake, which spawns at about the same time as the suckers, enters only the outlet.

BREEDING

Dwarf suckers began running into the tributary streams of Wolf Lake on the identical date (May 25) during the two seasons of this study. In each instance the fish appeared in considerable numbers from the very beginning so that actual work was started on May 26. The suckers were spawning in the North Inlet on June 5, 1934 but

had nearly vacated the stream by the 7th, indicating that the spawning season in that year compared favorably with that of the past two years. The temperature of the water in the streams apparently has little or no effect in determining the date on which suckers enter the spawning areas because they appear at about the same time each year regardless of the temperature. During the past season the water in each stream was only 48° F when the suckers appeared. The previous year the North Inlet was 54° F, and the South Inlet was 51° F. While the streams were not visited in 1934 until near the end of the spawning season they must have been considerably warmer than was the case on the other occasions because North Inlet was 67° F on June 5 and South Inlet was 59° F.

The temperature of the lake habitat should, and undoubtedly does, determine the spawning migration date. However, when the fish once enter the streams the date on which spawning takes place is determined largely by the temperature of the water. This was demonstrated very well in the 1938 season when spawning was delayed several days in the colder South Inlet and continued beyond the period utilized in the North Inlet. The situation was quite the reverse the past year by virtue of the fact that the forest cover was removed from the spawning area on the South Inlet, as a clean-up project in the CCC work plan.

Both streams average about six feet in width and except for a few pools do not exceed two feet in depth. The spawning areas proper have about six inches of water over sand or fine gravel bottom and with moderately quick velocity. The suckers were always found within an eighth of a mile of the lake. A jam of rocks, sticks, logs and leaves formed a natural barrier in the North Inlet, preventing further upstream migration while shallow water with apparent unfavorable spawning beds in the South Inlet caused the fish to remain well downstream. When not actually engaged in spawning and when frightened the fish repaired to the deeper pools. Several hundred frequently occurred in a single pool. Migration to and from the streams generally took place at night.

The data thus far indicate that the males precede the females to the spawning areas. This was particularly noticeable the first and second days of the 1938 season when only 54 females from the total catch of 559 were recorded during that period. There were only 146 females among the 627 suckers captured during the corresponding dates in 1939. That females were more numerous on the third day and thereafter was evidenced by the increased activity in mating procedure. Of course in making comparisons due consideration was

given the fact that the male-population greatly outnumbered the female population. However, the males always so greatly outnumbered the females that a spawning trio was generally accompanied by a number of excess males. The summary for the two seasons (Table No. 12) shows that there were about three males for every female.

TABLE 12. SUMMARY OF DWARF SUCKERS MARKED DURING THE SPAWNING SEASONS OF 1938 AND 1939

SEASON	Total Fish Both Sexes	No. Males	No. Females	Percent Males	Percent Females
1938.....	1996	1634	362	81.9	18.1
1939.....	1977	1214	763	60.4	39.6
Both seasons.....	3973	2848	1125	71.1	28.9

Spawning occurred throughout the twenty-four hours of the day but there was reason to believe that greater activity in this respect took place at night, when migration was more pronounced. Marked fish were always liberated well downstream beyond the section occupied by spawning fish. They remained where they were liberated throughout the day but made their way upstream to the spawning beds during the night. On dull days, migration movements within the stream were observed in the late afternoon.

The spawning fish always faced upstream, frequently in water that was just deep enough to cover their backs (Fig. 61). During the spawning act the dorsal and caudal fins and sometimes part of the back frequently appeared above the water surface. The movements of the fish under such circumstances were so vigorous that the water was greatly agitated making it possible to easily distinguish the spawning groups even at considerable distances. The spawning act, in general, was very similar, if not identical, to that of the common sucker. This is so well known that further description appears unnecessary in this paper.

After the spawning season, which lasts for about ten days, the breeding suckers return to the deep water of Wolf Lake where they remain until the next breeding season. The fish apparently go directly to their objective. In making these migration trips they

were never observed in the act of entering the streams, but when returning they quickly departed for deep water after reaching the mouth of the inlet.

These suckers apparently spawn for the first time when they have reached a length of about $3\frac{1}{2}$ inches. A number of suckers, including both males and females, taken during both seasons, were obviously on their first trip to the spawning areas. These were lighter in color and less robust than older individuals. In fact they were more like the young of the normal common suckers.

SEXUAL DIMORPHISM

The sexes of dwarf suckers, as with most fishes, can be distinguished during the breeding season by the greatly distended body of the female. However, this is not always definite evidence especially when spent or partially spent females are encountered. During this study it was generally possible to differentiate the sexes with certainty from deposits of the sex elements during the marking and measuring processes. However, in doubtful cases the necessary evidence was obtained by stroking the belly in the manner used in "stripping".

Both sexes were provided with tubercles at spawning time, but, in general, the males were better equipped with these structures than were the females. Males had tubercles on the scales at the posterior end of the body particularly in the region of the vent and the anal fin. The anal fin and the lower lobe of the caudal fin supported numerous stout and efficient tubercles. The upper lobe of the caudal had a good many tubercles but these were rather small and granular in appearance compared with those located ventrally.

The females had tubercles in essentially the same portions of the body with the exception of the upper lobe of the caudal fin which was unarmed. The tubercles on the anal fin were few in number, small and comparatively weak. The scales in the region of the vent and the anal fin were greatly thickened and had the margin lined with minute tubercles. The females showed greater modification than the males with respect to the scales.

Breeding male dwarf suckers were generally very much darker than the females, but the sexes could not be differentiated by color alone because there was considerable variation, particularly in the smaller as well as the larger individuals. The dorsal side of a typical male was olive-colored with darker mottlings. A lighter stripe occurred immediately below the dorsal area and that in turn was

followed by a broad black stripe in the region of the lateral line which extended across the head to the snout. This dark stripe ended rather abruptly dorso-ventrally, leaving the ventral side quite colorless.

The females were plain olive-green on the dorsal and lateral regions although the smaller individuals were slightly mottled. There were none of the abrupt color changes as was the case in the males. The belly and the lower fins were colorless.

Many of the females were considerably larger than the general run of male suckers but an occasional large male would sometimes appear in the association so that it was not always possible to differentiate the sexes from size alone. The entire catch of females for each year averaged about six inches in standard length. Further data on comparative lengths are shown in Table 13.

TABLE 13. COMPARATIVE LENGTHS OF MALE AND FEMALE DWARF SUCKERS (IN INCHES)

SEASON	TOTAL NO. OF FISH		AVERAGE LENGTH		LARGEST FISH		SMALLEST FISH	
	Males	Females	Males	Females	Male	Female	Male	Female
1938.....	1,634	362	5.218	5.958	8	8.5	4	4.75
1939.....	1,799	825	5.237	6.015	8	10.5	3.5	4.5

EXPERIMENTS WITH MARKED FISH

All of the fish included in this study were released after clipping one of the lower fins in accordance with a definite system. Different fins were removed each season for each stream so that in case of recovery during succeeding years it would be possible to obtain certain data relative to the life-history of the sucker, particularly as regards migration and longevity of life.

The method was quite satisfactory except that, of course, it didn't provide for data on the individual fish. It was found that the fins must be removed very close to the body, otherwise regeneration occurs. Regenerated fins were seldom, if ever, as perfect as the original although careful scrutiny was necessary to avoid overlooking some of the previously marked fish.

As stated earlier in the report a total of 1996 dwarf suckers were marked in the 1938 season. Six hundred forty-seven or 32.4 percent of these were recovered and remarked during the 1939 season. Most of the suckers thus recovered had returned to the same stream from whence they had been captured the previous spawning season. Only eighteen or about three percent had shifted *from one end of the lake to the other*. The greatest shift was from the South Inlet to the North Inlet. This was more or less to be expected because the North Inlet is the larger of the two streams and is thus capable of accommodating more spawning fish.

Actually 1403 fish were marked from the North Inlet in 1938 and 526 of these were recovered the following year. Only 593 were marked in South Inlet and 103 were recovered the next year. The greatest number of recovered fish for a single day occurred on the first day (May 26) when 184 of the captured fish were returns.

The average lengths of the 585 males and of the 62 females in the recoveries were about three-tenths of an inch greater in each sex than were the general averages of all marked fish for each sex. Granting that the recovered fish consisted of representative age classes and making due allowance for possible growth in the lower age classes it would appear that very little, if any, annual growth takes place in mature individuals. In other words they remain dwarf and do not develop into larger individuals that might be confused with typical *commersonii*.

In analyzing the above data it is apparent that there is a definite tendency on the part of the breeding suckers to return annually to the identical spawning stream. The movements of the suckers after they reenter Wolf Lake are unknown except that they inhabit the deeper areas. Those that shifted from the North Inlet to the South Inlet, or *vice versa*, had to travel at least one and one-fourth miles (the length of Wolf Lake) within a year's time and in so doing meet individuals that had spawned in a tributary at the opposite end of the lake.

Wolf Lake has two rather deep areas—one near the north end and the other near the middle. These have maximum depths of 45 feet and 40 feet, respectively. Between these two areas the depth decreases to twenty feet. This suggests that the suckers may not have a common habitat during their stay in the lake and that the northernmost deep area is occupied to a great extent by the suckers that spawn in the North Inlet and the other deep area by those that spawn in the South Inlet. Likewise, the migration from one deep

area to the other may explain in part the reason for the change of spawning areas in the case of the eighteen individuals encountered.

The tributary streams were seined very thoroughly during the sucker spawning season and it is believed that more than 75 percent of the fish were captured. Thus most of the fish marked in the 1938 season would have been included in the catch had they been present. It is definitely known that some of the 1349 fish that failed to appear lost their lives through predation even before they left the spawning beds that year but this would not account for the entire number. Since Wolf Lake is inhabited by large lake trout that are known to feed almost exclusively on fish it is safe to assume that, at least, some of the marked dwarf suckers were taken by the trout. Likewise herring gulls, loons and other predatory animals undoubtedly take their toll. Then too it is possible, though not probable, that some of the suckers spawn in the lake itself as do certain other species of fish which prefer streams for spawning purposes but in lieu of suitable streams are content to use lake shoals.

AGES

A study of the scales collected from about 500 breeding suckers shows that the majority of the fish were in the 3-, 4-, and 5-year age classes. The oldest individual was seven years of age and the youngest three years. There was very little, if any, correlation between age classes and size classes. However, a few of the older fish were larger than the usual run. This seems to indicate that the suckers grow quite rapidly the first three or four years of their existence, after which there is little or no growth. The average lengths of the fish marked in 1938 and recovered the following year compared favorably with the general average for the totals of the two years. In fact the averages for each sex of recovered fish was only three-tenths of an inch greater than the general average for each sex the year previous.

ASSOCIATED FISH

Horned dace (*Semotilus atromaculatus*) were commonly associated with dwarf suckers on the spawning areas. The lower portion of the streams was better suited as nesting sites for the dace, consequently there was only a slight overlapping of the breeding habitat of the two species. The dace, apparently, do not interfere in any way with the suckers.



Fig. 62. A pair of dwarf suckers—the upper fish a five-inch male, the lower fish a five and three-fourths-inch female.



Fig. 63. Dwarf suckers with extra fins. The upper fish with extra fin on right ventral side, the lower one with extra fin adjoining caudal and with enlarged anal fin.

Both adult and young native brook trout were found in the streams, particularly the North Inlet. An occasional adult was sufficiently large to be considered legal size for catching. The young trout of the North Inlet were but slightly larger than sac-fry and as such must have been hatched in that stream. They were fairly common.

An occasional northern sculpin (*Cottus cognatus*) was observed on the sucker spawning beds. Those that were collected had been feeding on sucker eggs to a large extent. Aquatic insects were also included in their food so that they do not feed exclusively on fish eggs, even when an abundant supply is at hand.

Black-nosed dace (*Rhinichthys atratulus*) and cut-lips (*Exoglossum maxillingua*) were occasionally in the association, particularly the latter.

ABNORMALITIES IN FINS

A number of dwarf suckers were encountered during the course of the study that either had more than the usual complement of fins or had fins that were quite abnormal. The first specimen that came to my attention was a six-inch male with an extra fin on the right ventral side of the body about midway between the pectorals and the ventrals. While it was as long as a regular ventral fin it contained only two but very stout rays (Fig. 63).

Another 5-inch male had an extra fin of seven rays attached to the caudal peduncle ventrally to the caudal fin. It was partly attached also to the lower lobe of the caudal at its base. It extended downwards and backwards similarly to the anal (Fig. 63). Strangely enough it was quite profusely covered with pearl organs. The caudal fin was normal in every respect except position—the extra fin had crowded it upwards. The anal fin was larger than normal so that the last few rays overlapped on the extra fin. There was only an open space of 5mm. on the caudal peduncle between the anal fin and the extra fin.

Both pectoral fins on a six-inch female were very short and stubby—scarcely one-half normal size. In fact they were only one-half inch long and contained only three rays each.

A four and one-half-inch male was minus the left ventral fin and from appearances had always been so. The right ventral was scarcely half normal length and contained only four rays.

Another four and one-half-inch male was found with its pair of ventral fins emerging at a common point on the median ventral line. The fins were joined in a narrow plane along the middle ray giving the appearance of an "x" arrangement for the combination.

CASUALTIES

Predatory animals are quick to take advantage of an opportunity to obtain abundant food with little effort and such was the case with the dwarf suckers at Wolf Lake. Some of the victims were left in the streams, frequently with only the heads removed. Foxes, bear, raccoons, mink and otter are known to occur in the general vicinity but it has never been determined which is responsible for these losses. Large yellow perch captured during late May in the deeper part of Deer Pond, on the Huntington Forest tract, had been feeding on dwarf suckers to a considerable degree.

REFERENCES

DENCE, W. A.

1937. Wild Life of the Archer and Anna Huntington Wild Life Forest Station. Part II. Preliminary Reconnaissance of the Waters of the Archer and Anna Huntington Wild Life Forest Station and Their Fish Inhabitants. Roosevelt Wildlife Bull., Vol. 6, No. 4, pp. 610-672.

GREELEY, J. R., AND C. W. GREENE

1931. A Biological Survey of the St. Lawrence Watershed. II. Fishes of the Area, with Annotated List. N. Y. State Biol. Survey No. 5, Suppl. to Twentieth Ann. Report, pp. 44-94.

GREELEY, J. R., AND S. C. BISHOP

1932. A Biological Survey of the Oswegatchie and the Black River Systems. II. Fishes of the Area, with Annotated List. N. Y. State Biol. Survey No. VI. Suppl. to Twenty-first Ann. Report, pp. 54-92.

KENDALL, W. C., AND W. A. DENCE

1929. The Fishes of the Cranberry Lake Region. Roosevelt Wildlife Bull., Vol. 5, No. 2, pp. 215-309.

MATHER, FRED

1890. Adirondack Fishes. Eighteenth Ann. Rept. of N. Y. State Comm'rs of Fisheries for 1889 (1890), pp. 124-182.

PART IV. ANNOTATED LIST OF THE FERNS AND FLOWERING PLANTS OF THE HUNTINGTON WILDLIFE STATION

By

HAROLD F. HEADY

*Graduate Assistant, Department of Forest Botany and Pathology
New York State College of Forestry
Syracuse, New York*

CONTENTS

	PAGE
Preface	235
Acknowledgments	236
Introduction	237
Location and activities of the Huntington Forest.....	237
The environment of the vegetation.....	237
Geology	237
Topography and drainage.....	238
Soils	238
Climate	238
Methods	240
Explanation of the catalog.....	242
Abbreviations	243
The vascular flora of the Huntington Forest.....	243
Conspectus of families.....	243
Annotated List	245
Literature cited	345
Index of the latin and vernacular names.....	347
Addenda	368

PREFACE

In recent decades, many extensive tracts of land have been designated as experimental areas, devoted to scientific investigation. Frequently these lands have been controlled by forestry organizations and have served for experimentation in forest land use, including wildlife management, range management, soil conservation, and recreation, as well as for timber growing. In all instances, a detailed inventory of the natural resources is requisite for productive research, and one of these requisites is a knowledge of the kinds of plants that grow on and near the area. This annotated flora of the Archer and Anna Huntington Wildlife Forest Station, has been prepared for that purpose.

The present publication, completed in partial fulfillment of the requirements for the degree of Master of Science at the New York State College of Forestry, is the first of a projected series of floristic surveys of experimental areas controlled by the forestry college. It will be followed in due time by similar investigations on the Pack Demonstration Forest, Warrensburg, N. Y., the Pack Experimental Forest, Cranberry Lake, N. Y., and the Ranger School Forest, Wanakena, N. Y. The flora of the Salamanca Forest is included in the *Flora of the Allegany State Park Region*, N. Y. State Museum Handbook 2, 1927, by Homer D. House; and the flora of the Syracuse Forest Experiment Station will form part of the Flora of Onondaga County, now in course of preparation.

Mr. Heady has made very extensive collections on the Forest. All previous surveys, notably those of Homer D. House in Newcomb Town, have been investigated. The more complex taxonomic groups have been identified by specialists. All collections have been compared with herbarium material, and annotations have been written specifically for the Forest area. It is believed that the bulletin will serve well as a source of basic information for future scientific research on the Forest.

FRANK E. EGLER

ACKNOWLEDGMENTS

The author wishes to express his indebtedness to Dr. Frank E. Egler, Assistant Professor, Department of Forest Botany and Pathology, under whose supervision the floristic survey has progressed; also to Professor R. T. King, Director of the Roosevelt Wildlife Forest Experiment Station, for his willing support, cooperation, and hospitality at all times; and to Dr. H. D. House, State Botanist, Albany, N. Y., for valuable assistance in making determinations, for use of a manuscript of the flora of Newcomb Town, and for access to the herbarium of the New York State Museum. The author is also indebted to the following persons for determinations of the species in the groups mentioned: E. J. Alexander, New York Botanical Garden, Violaceae and Compositae; Carleton R. Ball, United States Department of Agriculture, Salix; L. H. Bailey, Bailey Hortorium, Rubus and cultivated plants; Earl L. Core, West Virginia University, Cyperaceae; Donovan S. Correll, Harvard University, Ophioglossaceae, Osmundaceae, and Polypodiaceae; F. J. Hermann, United States Department of Agriculture, Juncaceae; Mildred E. Mathias and Lincoln Constance, University of California, Umbelliferae; E. J. Palmer, Arnold Arboretum, Crataegus; Alfred Rehder, Arnold Arboretum, Rosa; and Reed C. Rollins, Harvard University, Cruciferae.

INTRODUCTION

Location and Activities of the Huntington Forest. The Archer and Anna Huntington Wildlife Forest Station,* held in trust by Syracuse University for the New York State College of Forestry, is a rectangular 15,000-acre tract of land in the central part of the Adirondack Mountains west of the village of Newcomb, New York.

By the provisions of the deed of trust from the previous owners, Archer M. and Anna H. Huntington, the Huntington Forest is for the use of the New York State College of Forestry, "for investigation, experiment and research in relation to the habits, life histories, methods of propagation and management of fish, birds, game, food and fur-bearing animals (mammals) and as a forest of wildlife" (Johnson and Dence, '37).

The Environment of the Vegetation. *Geology.* The entire Adirondack region has been subjected to many complex changes, including marine deposition, folding, uplift, peneplaning, igneous activity, faulting and glaciation. The rocks, because of these complexities, include metamorphic sediments, gneisses, quartzites, and crystalline limestones (Fenneman '38). All of these formations have been subjected to tremendous pressures which have folded and thoroughly metamorphosed them (Miller, '14). The oldest of the rocks belong to the Grenville formation, a metamorphosed series of folded sedimentary rocks composed of marbles with interbedded quartzites and schists.

The major portion of the Huntington Forest, which includes the mountainous parts, is underlain by resistant syenite and granitic material. Many of the other areas of softer more easily eroded marbles have been worn away to form depressions, for example, Newcomb valley. A few valleys, however, follow fault lines or cross joints (Balk, '32; Cushing, '07; Miller, '17).

Glaciation has changed the surface features very slightly, having only a smoothing effect on the general topography. Many lakes, of which Wolf Pond is an example, have been formed by morainal damming of valleys. Glacial till, varying in thickness from a few inches on the hillsides to probably not more than 100 feet in the valleys, covers quite completely the underlying formation. Cushing ('07) reports morainic deposits in considerable quantities around Corner Pond and on the east and west slopes facing Catlin Lake.

* Hereafter referred to as the Huntington Forest or Forest.

Balk ('32) reports another deposit along the north shore of Rich Lake.

Topography and Drainage. Surrounded by the highest peaks of the Adirondacks on the north and northeast, and by only slightly lower mountains to the west, south, and east, the Forest has an average elevation of 1800 to 2000 feet above sea level, and a range of altitude from 1560 feet at Lake Belden to 2693 feet at the summit of Goodnow Mt. Other than swamps and meadows relatively level areas are exceptional. Occasional precipitous rock faces with talus beneath (following two major fault systems) occur both on the southeast and southwest sides of the higher peaks (Bowman, '11).

The rectilinear drainage system (Balk, '32) on the Forest, including eleven named bodies of water and numerous streams, drains through Rich Lake to the Hudson River. The gradient of all streams above 1700 feet is quite steep, most of them flowing over rocky irregular beds. Below 1700 feet, as shown by the drainage from Catlin Lake to Rich Lake, the streams flow sluggishly through numerous swampy areas in broad valleys.

Soils. For the most part, the soils of the Huntington Forest are podzols. Accumulations of sandy glacial till, granitic (acidic) parent material, low temperatures, high rainfall, and forest vegetation—all present on the Forest—are the primary factors of podzol formation (Kellogg, '36). Scattered over the Forest in low poorly drained depressions and occasionally along lake shores are small areas of peat and muck. In several places clay underlies the sandy beaches of Catlin Lake.

The three mor types of humus that are recognized by Heiberg ('37) occur on the Forest, of which the granular mor is the most common, more or less corresponding with the mixed conifer hardwood forest type. Fibrous mor is the common type in the spruce flats; however, the soil tends towards a greasy mor if hemlock is a dominant in the stand (Heimbürger, '34).

Mull types of humus on the Forest are limited to the areas underlain by calcareous strata of the Grenville series (Heimbürger, '34).

*Climate.** Definite data concerning the temperature, precipitation, and winds of the Huntington Forest are not available, but records of use in determining the general climate have been kept at several stations within the Adirondack Mountains; namely: Lake Placid (1864 feet elev.), 23 miles northeast; Saranac Lake (1620 feet elev.),

* All weather data from Mordoff ('34).

25 miles north; Tupper Lake (1700 feet elev.), 23 miles northwest; and Indian Lake (1660 feet elev.), 13 miles south of the Forest.

In order to express graphically the seasonal variations in precipitation and temperature, Raunkiaer's ('34) hydrotherm figures have been adopted. The curves (Fig. 64) connect points which represent

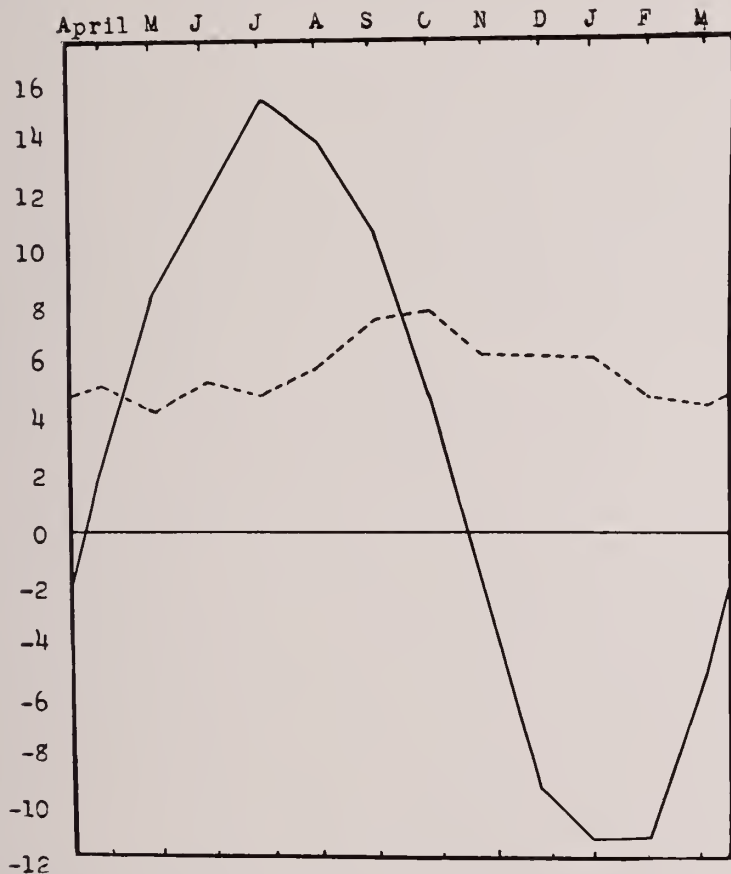


Fig. 64. Hydrotherm figure for the Adirondack Mountains. — Temperature curve; ----- Precipitation curve. The numbers on the ordinate indicate both degrees Centigrade and centimeters of precipitation.

averages of monthly means from the four stations listed above. The favorable and unfavorable seasons, as far as they are dependent upon moisture and heat, are shown as crests and troughs in the curves. With the yearly precipitation curve consistently high, as it is in this case, the vegetation can well tolerate the high temperatures of July and August. During the long, extremely cold winters, moisture accumulates in the form of snow which adds to the effectiveness of

the spring precipitation by raising the level of the ground water. Another factor which may influence the vegetation is the relatively short frost-free period of about 100 days.

The prevailing winds of the Adirondack Mountains are westerly. However, local topographic conditions control the wind direction, so that the prevailing directions on the Forest are merely those of local currents.

Methods. During the growing season of 1939, approximately twelve weeks in the months of May, June, July, and September were spent in the field. At least three-fourths of this time was spent in collecting plant material and the remainder in identifying the specimens collected. By using an abundance of fresh material, many difficult determinations could be made readily.

Because species are in condition for collecting at different times during the growing season, several visits to the many localities were necessary. The trips did not repeat any particular pattern except that trails and roads were often followed. Since the ranges of many species are limited to such sites as clearings, ridges, bogs, rock slides, lake shores, and camps, every effort was made to visit such places on several different occasions.

At the time each plant was collected, it was given a number, tagged, and placed in a vasculum, and later the specimens were placed between newspapers, blotters, and corrugated cardboard driers in an ordinary plant press. To preserve as much color as possible and to save time, the press was then placed on edge in a drier frame over three kerosene lanterns. With the exception of a few succulents and aquatics, twenty-four hours in the warm air was sufficient for drying.

Also at the time each plant was collected, a mimeographed field form (Fig. 65) was filled out in duplicate.

Location is used as a general term to mean the small area in which the plant was collected. All locations have been referred to obvious landmarks or physical improvements, and have been described in terms of named locality, elevation, site, exposure, and associated species. If a plant was collected on the gridded experimental area (check area) within the Huntington Forest, the location was referred to the control lines, e.g., corner of J-8; D-line, 4 chains south of 11, etc. The lettered series are compass lines one-fourth mile apart extending in NW-SE directions, and the numbered lines are similarly established at right angles to them.

The term "exposure" indicates relative exposure to conditions of light and shade. The following four classes were recognized: (1) *open*, indicating that the plants were in full sunlight most of the day; (2) *moderately open*, indicating that the plants were shaded part of

FLORA OF HUNTINGTON FOREST

Sc. name *Rhus toxicodendron*
 No. 1022 Date 9-13-39 Elev. 1570

Location Ranger station

Site Beach

Exposure Open

Soil, Moist sandy

Associate spp.

Cornus stolonifera

white cedar

Spiraea latifolia

Hypericum virginicum

Remarks

Few small patches along
 the shore of Rock Lake; rare

Det. by H. Heady

Coll. by H. Heady

Fig. 65. Sample of the field notes.

the day as they would be under scattered trees; (3) *moderately shaded*, indicating that the plants were in shade most of the day, as in small openings in the forest where large trees had fallen; and (4) *closed*, indicating that the plants were shaded the entire day, as in a dense stand of second growth trees or under a dense cover of bracken fern. At best this system is relative and only as accurate as the collector's judgment, although it does give a general picture of the light requirements.

Any pertinent facts, especially those concerning frequency, other than those given under the various headings, are listed under

"Remarks". No attempt has been made to distinguish between frequency (distribution in space) and abundance (number of individuals), but rather to embrace both in one set of terms as follows: (1) *rare*, indicating solitary or very small groups of plants widely separated; (2) *scarce*, few individuals or small groups of plants occurring infrequently; (3) *occasional*, not numerous individuals, occurring frequently; (4) *common*, numerous individuals occurring commonly; and (5) *very common*, large numbers of individuals forming a conspicuous part of the vegetation.

All specimens determined by the writer were identified by comparison with material at the herbarium of the New York State Museum, Albany, New York.

Each collection, with few exceptions, contained enough material for four herbarium sheets. The first of these sets is deposited in the Herbarium of the Department of Forest Botany and Pathology, New York State College of Forestry, Syracuse, New York; the second set is the property of the Roosevelt Wildlife Forest Experiment Station, New York State College of Forestry; the third is in the Herbarium of the New York State Museum; and the fourth is being retained by the author.

Explanation of the Catalog. The species in the following list are included mainly on the basis of collections made by the writer during the 1939 growing season. In addition to these are some Huntington Forest plants now at the New York State College of Forestry, which were collected by Earl L. Stone, and the more extensive collections of H. D. House from Newcomb and vicinity in the Herbarium of the New York State Museum. For species not collected by the author, verbatim citations are given in the text.

The order of families is that of Engler's *Syllabus der Pflanzenfamilien* (11th edition). The nomenclature follows, in-so-far as possible, the International Rules of Botanical Nomenclature. Synonyms are included for making the list referable to current manuals such as Wiegand & Eames' *Flora of the Cayuga Lake Basin, New York*, House's *Annotated List of the Ferns and Flowering Plants of New York State* (1st edition), Britton & Brown's *Illustrated Flora of the Northern States and Canada* (2nd edition), and Fernald & Robinson's *Gray's New Manual of Botany* (7th edition). Names which have more recently come into use are usually accompanied by a reference to the place of publication of the critical literature. The common names, listed in order of preference, are taken mainly from

Wiegand & Eames, and are supplemented by those in House's Annotated List.

The numbered species and varieties include all those plants which have been found to date within the boundaries of the Forest. No attempt has been made to list separately cultivated, native, naturalized, and adventive plants; for those that exist only in cultivation within the Huntington Forest the word "cultivated" is added. The cultivated plants, including fruits and vegetables, occurring outside the boundaries of the Forest are not included. Certain other species (hop, grape, lilac, etc.) may persist as individuals after cultivation, and they are so designated. Plants which are not known to occur within the boundaries of the Forest but which have been collected in the vicinity are inclosed in brackets.

Abbreviations. **B. & B.** Illustrated Flora of the Northern States and Canada (2nd edition) by N. L. Britton and R. Brown, 1913. **Gray.** Gray's New Manual of Botany (7th edition) by B. L. Robinson and M. L. Fernald, 1908. **Hitchcock.** Manual of the Grasses of the United States by A. S. Hitchcock, 1935. **House.** Annotated List of the Ferns and Flowering Plants of New York State by H. D. House, 1924. **W. & E.** Flora of the Cayuga Lake Basin, New York by K. M. Wiegand and A. J. Eames, 1925.

THE VASCULAR FLORA OF THE HUNTINGTON FOREST

	Number of genera	Number of species		Number of genera	Number of species
Conspectus of Families					
Division I. Pteridophyta.....	19	48	Subdivision II. Angiospermae..	302	702
1. Equisetales			Class I. Monocotyledoneae..	80	246
1. Equisetaceae....	1	4	7. Pandanales		
2. Lycopodiales			9. Typhaceae.....	1	1
2. Lycopodiaceae...	1	7	10. Sparganiaceae...	1	4
3. [Isoëtiales]			8. Helobiae		
3. Isoëtaceae.....	1	2	11. Potamogetonaceae	1	9
4. Ophioglossales			—, Najadaceae.....	1	1
4. Ophioglossaceae..	2	6	—, Scheuchzeriaceae.	1	1
5. Eufilicales			12. Alismataceae....	1	2
5. Osmundaceae....	1	3	13. Hydrocharitaceae	1	1
6. Polypodiaceae....	13	26	9. Glumiflorae		
Division II. Spermatophyta.....	309	713	14. Gramineae.....	28	61
Subdivision I. Gymnospermae..	7	11	15. Cyperaceae.....	9	99
6. [Coniferales]			10. Spathiflorae		
7. Taxaceae.....	1	1	16. Araceae.....	3	4
8. Pinaceae.....	6	10			

	Number of genera	Number of species		Number of genera	Number of species
11. Farinosae			25. Sapindales		
17. Xyridaceae.....	1	1	—, Empetraceae....	1	1
18. Eriocaulaceae...	1	1	50. Anacardiaceae...	1	2
19. Pontederiaceae..	1	1	51. Aquifoliaceae....	2	2
12. Liliiflorae			52. Celastraceae....	1	1
20. Juncaceae.....	2	12	53. Aceraceae.....	1	5
21. Liliaceae.....	14	19	54. Balsaminaceae...	1	1
22. Amaryllidaceae..	1	2	26. Rhamnales		
23. Iridaceae.....	2	2	55. Rhamnaceae....	1	1
13. Microspermae			56. Vitaceae.....	2	3
24. Orchidaceae.....	11	25	27. Malvales		
Class II. Dicotyledoneae....	222	456	57. Tiliaceae.....	1	1
14. Salicales			58. Malvaceae.....	1	1
25. Salicaceae.....	2	15	28. Parietales		
15. Myricales			59. Guttiferae.....	1	7
26. Myricaceae.....	1	2	60. Violaceae.....	1	16
—, Juglandales			61. Begoniaceae....	1	1
—, Juglandaceae....	1	1	29. Myrtiflorae		
16. Fagales			—, Thymelaeaceae..	1	1
27. Betulaceae.....	4	6	62. Oenotheraceae...	4	8
28. Fagaceae.....	2	2	63. Halorrhagaceae..	1	2
17. Urticales			30. Umbelliflorae		
29. Ulmaceae.....	2	2	64. Araliaceae.....	2	4
30. Urticaceae.....	2	2	65. Umbelliferae....	9	9
—, Santalales			66. Cornaceae.....	1	3
—, Loranthaceae....	1	1	31. Ericales		
18. Polygonales			67. Pirolaceae.....	4	7
31. Polygonaceae....	4	12	68. Ericaceae.....	9	14
19. Centrospermae			32. Primulales		
32. Chenopodiaceae..	1	1	69. Primulaceae....	4	5
33. Amaranthaceae..	1	1	33. Contortae		
34. Portulacaceae...	2	2	70. Oleaceae.....	2	3
35. Caryophyllaceae.	7	12	71. Gentianaceae....	3	3
20. Ranales			72. Apocynaceae....	2	2
36. Nymphaeaceae..	3	5	73. Asclepiadaceae..	1	2
37. Ranunculaceae..	10	17	34. Tubiflorae		
—, Berberidaceae...	1	1	—, Convolvulaceae..	1	1
21. Rhoeadales			74. Polemoniaceae...	1	3
38. Papaveraceae....	2	4	—, Borraginaceae...	1	1
39. Cruciferae.....	13	16	75. Labiatae.....	11	15
22. Sarraceniales			76. Solanaceae.....	3	5
40. Sarraceniaceae..	1	1	77. Scrophulariaceae.	7	9
41. Droseraceae.....	1	2	78. Orobanchaceae...	2	2
23. Rosales			79. Lentibulariaceae.	1	6
42. Crassulaceae....	1	1	35. Plantaginales		
43. Saxifragaceae....	5	11	80. Plantaginaceae..	1	2
44. Rosaceae.....	17	57	36. Rubiales		
45. Leguminosae....	4	9	81. Rubiaceae.....	4	9
24. Geraniales			82. Caprifoliaceae...	5	14
46. Oxalidaceae.....	1	3	37. Campanulatae		
47. Geraniaceae.....	1	1	83. Campanulaceae..	2	9
48. Tropaeolaceae...	1	1	84. Compositae.....	31	84
—, Linaceae.....	1	1			
49. Euphorbiaceae..	1	1	Total.....	328	761
—, Callitrichaceae...	1	1			

ANNOTATED LIST

Division I. PTERIDOPHYTA*

1. EUEQUISETALES

1. EQUISETACEAE (Horsetail Family)

Equisetum (Tourn.) L.

1. *Equisetum arvense* L. COMMON HORSETAIL.

Moist, well-drained sandy or gravelly soil, especially along the truck trail and state highway; occasional.

2. *Equisetum fluviatile* L. PIPES. WATER HORSETAIL.

Equisetum limosum of W. & E.

Swamps and marshes; in wet poorly drained mucky soils; common.

3. *Equisetum prealtum* Raf. TALL SCOURING RUSH.

Equisetum hyemale var. *affine* of W. & E.

Equisetum hyemale var. *robustum* of Gray.

Equisetum robustum of B. & B.

Moist, well-drained sandy roadside near creek east of the truck trail entrance; rare. Found only in this location.

4. *Equisetum sylvaticum* L. var. *pauciramosum* Milde. WOOD HORSETAIL.

Low, wet, sandy soils along creeks in moderately closed hardwood stands; occasional; often occurring in pure masses when the tree canopy is thin.

2. LYCOPODIALES

2. LYCOPODIACEAE (Club-moss Family)

Lycopodium (Dill.) L.

1. *Lycopodium annotinum* L. STIFF CLUB-MOSS. BRISTLY CLUB-MOSS.

Moderately dry open woods, rocks and banks in moist shaded places, partially shaded edges of clearings, and roadsides; in the humus layer on sandy soils; occasional; often forming mats.

2. *Lycopodium clavatum* L. COMMON CLUB-MOSS. RUNNING-PINE.

Grassy banks, clearings, and roadsides; in dry sandy soils; occasional; often forming a mat along the edges of clearings near the state highway.

* The nomenclature of the Pteridophytes is that of Broun, '38.

3. **Lycopodium flabelliforme** (Fern.) Blanch. GROUND-CEDAR.
TRAILING CHRISTMAS-GREEN.

Lycopodium complanatum var. *flabelliforme* of W. & E., of Gray,
and of House.

Lycopodium complanatum, in part, of B. & B.

Dry banks, old fields (under white pine stands), and clearings;
on sandy soil; common. Often forms a mat in thin bracken areas of
recent burns and beaver cuttings.

4. **Lycopodium inundatum** L. BOG OR MARSH CLUB-MOSS.

Collection of H. D. House, "No. 26924, moist shore of Catlin Lake
near Sabattis Pass, Aug. 14, 1939"; rare.

5. **Lycopodium lucidulum** Michx. SHINING CLUB-MOSS.

Rich moist woods of hemlock and hardwoods; on sandy well-
drained soil; very common. Occasionally in clearings forming mats
under isolated trees.

6. **Lycopodium obscurum** L. var. **dendroideum** (Michx.) D. C.
Eaton ex A. Gray. GROUND-PINE.

Lycopodium obscurum, in part, of B. & B.

Moderately dry woods, edges of clearings, and open areas; in
sandy soils; common; usually forming a mat.

7. **Lycopodium tristachyum** Pursh. GROUND-CEDAR.

Found only once; on a dry, open, sandy bank in The Fallow; rare.

3. [ISOËTALES]

3. ISOËTACEAE (Quillwort Family)

Isoëtes L.

1. **Isoëtes braunii** Durieu. BRAUN'S QUILLWORT.

Isoëtes echinospora var. *braunii* of W. & E. and of Gray.

Submerged in shallow water along the mucky shores of lakes
Catlin, Rich, and Harris; scarce. Gynospores with slender or jagged
spines; plants usually partially emerged.

2. **Isoëtes tuckermani** A. Br. ex Engelm. TUCKERMAN'S QUILL-
WORT.

Collection of H. D. House, "No. 26919, shallow water, east side
of Catlin Lake, August 14, 1939"; occasional. Gynospores with
jagged honeycombed reticulated crests; plants usually completely
emerged.

4. OPHIOGLOSSALES

4. OPHIOGLOSSACEAE (Adder's Tongue Family)

Botrychium Sw.[**Botrychium dissectum** Spreng. var. **obliquum** (Muhl.) Clute.

CUT-LEAVED GRAPE FERN.

Botrychium dissectum, in part, of W. & E.*Botrychium obliquum* of Gray and of B. & B.*Botrychium obliquum* var. *dissectum* of House.

Collection of H. D. House, "No. 11354, old pasture on river trail one half mile below Hudson River Bridge, Newcomb, September 8, 1925".]

[**Botrychium matricariaefolium** A. Br. ex Koch. MATRICARY

GRAPE FERN.

Botrychium neglectum of House and of B. & B.*Botrychium ramosum* of Gray.

Collection of H. D. House, "No. 10952, moist soil, open field, Newcomb, July 2, 1925".]

[**Botrychium multifidum** (S. G. Gmel.) Rupr. var. **silaifolium**

(Presl) Braun.

LEATHERY GRAPE FERN.

Botrychium silaifolium of House and of B. & B.*Botrychium ternatum* var. *intermedium* of W. & E. and of Gray.

Collection of H. D. House, "No. 11349, moist soil in pasture, Newcomb, September 7, 1925".]

[**Botrychium simplex** Hitchc.

LITTLE GRAPE FERN.

Collection of H. D. House, "No. 9359, sandy thickets, Newcomb, June 23, 1923".]

1. **Botrychium virginianum** (L.) Sw. RATTLESNAKE FERN.

GRAPE FERN.

Shaded roadsides, and woodlands; in dry or moist rich sandy soil; scarce.

[**Ophioglossum** (Tourn.) L.][**Ophioglossum vulgatum** L.

ADDER'S-TONGUE FERN.

Collection of H. D. House, "No. 8063, wet marshy meadow, Newcomb, June 7, 1922".]

5. EUFILICALES

5. OSMUNDACEAE (Flowering Fern Family)

Osmunda (Tourn.) L.

1. *Osmunda cinnamomea* L. CINNAMON FERN.

Swamps, bog margins, creek banks, and low depressions in woods; in wet organic soil; common. Fertile and sterile fronds separate, the latter bipinnatifid; pinnae of sterile frond with tufts of tomentum at the base.

2. *Osmunda claytoniana* L. INTERRUPTED FERN.

Clearings, stream banks, bog margins, and low depressions in woods; in wet sandy or mucky soil; common. Frond fertile in the middle; bipinnatifid; pinnae lacking tufts of tomentum at the base.

3. *Osmunda regalis* L. var. *spectabilis* (Willd.) Gray. ROYAL FERN.

Osmunda regalis of Gray and of B. & B.

Creek banks, lake shores, bog margins, and swamps; in wet mucky or sandy soil; common; usually associated with alder. Frond fertile at the tip, 2-pinnate.

A European species, represented in America by the variety.

6. POLYPODIACEAE (Fern Family)

Adiantum (Tourn.) L.

1. *Adiantum pedatum* L. MAIDENHAIR FERN.

Wooded ridges and slopes; in moist humus layer on sandy soil; occasional.

Athyrium Roth

1. *Athyrium angustum* (Willd.) Presl. LADY FERN.

Asplenium filix-femina of Gray.

Athyrium filix-femina of B. & B.

Clearings, bogs, creek banks, and low woodlands; in wet mucky or sandy soil; common.

A shade form (H. F. Heady, No. 509) with larger less coriaceous fronds was identified by Donovan S. Correll as var. *rubellum* (Gilbert) Butters, with characters which intergrade in nature with those of the typical species, a smaller sun form. This form is considered a phenotypic epharmone on the Forest, not worthy of nomenclatural recognition.



Fig. 66. The white ash stand in Ackerman Clearing. Photo by E. F. McCarthy.



Fig. 67. White birch along shore of Rich Lake. Photo by C. E. Johnson.



Fig. 68. Bracken following a burn near Deer Pond. Beaver lodge in foreground. Photo by E. F. McCarthy.



Fig. 69. Interrupted fern (*Osmunda claytonia*). Photo by C. E. Johnson.

Cystopteris Bernh.

1. **Cystopteris bulbifera** (L.) Bernh. BLADDER FERN.

Filix bulbifera of House and of B. & B.

Shaded lake shores and woods; in moist humus and especially on calcareous outcrops; scarce. Fronds bulblet-bearing, broadest at the base, and long-tapering; indusium truncate on the free side.

2. **Cystopteris fragilis** (L.) Bernh. var. **mackayii** Lawson.

BRITTLE FERN.

Cystopteris fragilis, in part, of W. & E. and of Gray.

Filix fragilis, in part, of House and of B. & B.

Shaded rocky slopes and cliffs; in moist organic soil; scarce. Fronds not bulblet-bearing, scarcely broader at the base, and short-pointed; indusium acute at free end. Differs from *Cystopteris fragilis* by having pinnules widest at or above the middle and indusium nearly entire.

Dennstaedtia Bernh.

1. **Dennstaedtia punctilobula** (Michx.) Moore. HAY-SCENTED FERN.

Dicksonia punctilobula of Gray.

Clearings, swamp margins, and wooded slopes; in moist organic layer on sandy soil; common; forming nearly pure stands in The Fallows.

Diplazium Sw.

1. **Diplazium pycnocarpon** (Spreng.) Broun. NARROW-LEAVED SPLEENWORT. GLADE FERN.

Asplenium angustifolium of Gray.

Asplenium pycnocarpon of B. & B.

Athyrium angustifolium of W. & E.

Athyrium pycnocarpon of House.

Collection of H. D. House, "No. 26625, low woods north of cemetery, west of Newcomb, July 5, 1939". Fronds 1-pinnate.

- [**Diplazium thelypteroides** (Michx.) Presl. SILVERY SPLEENWORT.

Asplenium acrostichoides of Gray.

Athyrium acrostichoides of W. & E.

Athyrium thelypteroides of House and of B. & B.

Collection of H. D. House, "No. 7326, rich moist woods, Newcomb, July 15-30, 1920". Fronds 2-pinnate.]

Dryopteris Adans.

1. **Dryopteris campyloptera** (Kunze) Clarkson. SPREADING
SHIELD FERN.

Aspidium spinulosum var. *dilatatum* forma *anadenium* of Gray.
Thelypteris dilatata var. *americana* of House.

One station on the top of Catlin Mountain; in organic soil on rocks; rare.

2. **Dryopteris clintoniana** (D. C. Eaton) Dowell. CLINTON'S
SHIELD FERN.

Aspidium cristatum var. *clintoniana* of Gray.
Thelypteris clintoniana of House.
Thelypteris cristata var. *clintoniana* of W. & E.

Collection of H. D. House, "No. 26623, woods east end of Rich Lake, July 5, 1939".

3. **Dryopteris cristata** (L.) Gray. CRESTED SHIELD FERN.
SWAMP SHIELD FERN.

Aspidium cristatum of Gray.
Thelypteris cristata of W. & E. and of House.

Clearings, swamps, bogs, and springy stream banks, in wet organic and sandy soil; common.

Dryopteris cristata x intermedia

Aspidium boottii of Gray.
Thelypteris cristata x intermedia of House.

On the Forest, this segregate, identified by Donovan S. Correll as *Dryopteris boottii* (Tuckerm.) Underw., is apparently of hybrid nature.

4. **Dryopteris fragrans** (L.) Schott. FRAGRANT FERN.
Aspidium fragrans of Gray.
Thelypteris fragrans of House.

Collection of E. L. Stone, "No. 77, organic material in crevice; under an overhanging cliff on Panther Mountain near the 13-line, June 18, 1938".

5. **Dryopteris goldiana** (Hook.) Gray. GOLDIE'S FERN.
Aspidium goldianum of Gray.
Thelypteris goldiana of W. & E. and of House.

Shaded ridges and slopes; in moist humus layer on rocks and sandy soil; occasional.

6. **Dryopteris intermedia** (Muhl.) Gray. AMERICAN SHIELD FERN.

Aspidium spinulosum var. *intermedium* of Gray.

Thelypteris intermedia of House.

Thelypteris spinulosa var. *intermedia* of W. & E.

Roadsides, clearings, swamps, and rich woods; in moist sandy soil rich with organic material; very common.

7. **Dryopteris marginalis** (L.) Gray. MARGINAL SHIELD FERN.

Aspidium marginale of Gray.

Thelypteris marginalis of W. & E. and of House.

Shaded ridges and slopes; in moist humus on sandy soil; occasional.

8. **Dryopteris noveboracensis** (L.) Gray. NEW YORK FERN.

Aspidium noveboracense of Gray.

Thelypteris noveboracensis of W. & E. and of House.

Woods and stream banks; in wet sandy soil; common.

9. **Dryopteris spinulosa** (O. F. Müll.) Watt. SPINY-TOOTHED SHIELD FERN.

Aspidium spinulosum of Gray.

Thelypteris spinulosa of W. & E. and of House.

Wooded slopes, stream banks, and edges of clearings; in moist organic layer on sandy soil; occasional. Differs from *Dryopteris campyloptera* and *Dryopteris intermedia* by having glabrous indusia.

10. **Dryopteris thelypteris** (L.) Gray var. **pubescens** (Lawson)

A. R. Prince ex Weatherby.

MARSH SHIELD FERN.

Aspidium thelypteris of Gray.

Dryopteris thelypteris of B. & B.

Thelypteris palustris of W. & E.

Thelypteris thelypteris of House.

Marshes, swamps, and bog margins; in wet mucky soil; scarce. *Dryopteris thelypteris* is a Eurasian fern (see Rhodora 31: 34. 1929).

Onoclea L.

I. **Onoclea sensibilis** L.

SENSITIVE FERN.

Springy slopes, creek banks, and shaded depressions; in wet mucky and sandy soil; occasional.

Phegopteris Fée

I. **Phegopteris dryopteris** (L.) Fée.

OAK FERN.

Dryopteris dryopteris of B. & B.

Thelypteris dryopteris of W. & E. and of House.

Wooded hillsides, creek banks, and bog margins; in moist humus; common. Fronds ternate, the three divisions petioled.

2. **Phegopteris polypodioides** Fée.

BEECH FERN.

Dryopteris phegopteris of B. & B.*Thelypteris phegopteris* of W. & E. and of House.

Wooded hillsides, creek banks, and low depressions; in wet humus layer on sandy soil; common. Fronds twice pinnatifid; pinnae all sessile.

Polypodium (Tourn.) L.1. **Polypodium virginianum** L.

COMMON POLYPODY.

Polypodium vulgare of Gray and of B. & B.

Moist humus capping boulders in shaded woodlands; occasional.

Polystichum Roth1. **Polystichum acrostichoides** (Michx.) Schott.

CHRISTMAS

FERN.

Ridges and wooded slopes; in moist humus on sandy soil; occasional. Fronds 1-pinnate.

2. **Polystichum braunii** (Spencer) Fée var. **purshii** Fern. EAST-ERN HOLLY FERN.*Polystichum braunii* of House, of B. & B., and of Gray.

Rocky woods and talus slopes; in moist humus pockets between the rocks; scarce. Fronds 2-pinnate. *Polystichum braunii* is a European species (see *Rhodora* 30: 30, 1928).

Pteretis Raf.1. **Pteretis nodulosa** (Michx.) Nieuwl.

OSTRICH FERN.

Matteuccia struthiopteris of B. & B.*Onoclea struthiopteris* of Gray.

Creek banks and low depressions; in wet mucky and sandy soil; scarce.

Pteridium Scop.1. **Pteridium latiusculum** (Desv.) Hieron. ex R. E. Fries. EAST-ERN BRACKEN. COMMON BRAKE.*Pteridium aquilinum*, in part, of B. & B.*Pteris aquilina*, in part, of Gray.

Clearings and old burns; in dry sandy soil; very common, forming pure stands. Small scattered plants generally distributed throughout the forest.

[**Woodsia** R. Br.][**Woodsia ilvensis** (L.) R. Br. RUSTY WOODSIA.

Collection of H. D. House, "No. 10249, rocks, Newcomb, July 9, 1924; rare".]

Division II. SPERMATOPHYTA

Subdivision I. GYMNOSPERMAE

6. [CONIFERALES]

7. TAXACEAE (Yew Family)

Taxus (Tourn.) L.

1. **Taxus canadensis** Marsh. GROUND HEMLOCK. AMERICAN YEW. CANADA YEW.

Moist rich woods of spruce and balsam; in organic soil on large rocks; rare; only three stations known.

8. PINACEAE (Conifer Family)

Abies (Tourn.) Hill

1. **Abies balsamea** (L.) Mill. BALSAM FIR.
Present in nearly all sites, very common.

Larix (Tourn.) Adans.

1. **Larix laricina** (DuRoi) Koch. AMERICAN LARCH. TAMARACK.
Bogs, along creeks, and lake shores; in wet mucky soils; occasional.

Picea Link

1. **Picea abies** (L.) Karst. NORWAY SPRUCE.
A few trees along the state highway; in dry sandy soil; rare. In a forest planting; not known to be naturalized.
2. **Picea glauca** (Moench) Voss. WHITE SPRUCE.

Picea canadensis of Gray and of B. & B.

A few large trees, in dry sandy soil of one of the clearings near the state highway; rare. Probably planted.

- 3 **Picea mariana** (Mill.) BSP. BLACK OR SWAMP SPRUCE.
One station in the sphagnum bog one-fourth mile south of Wolf Pond; rare, although common in bogs in the vicinity. *Picea mariana* is best distinguished from *Picea rubra* in having smaller incurved

cones which are persistent on the branches up to thirty years. The cones of *Picea rubra* begin to fall as soon as the scales are open, and have fallen by the following summer. The twigs of both species are always more or less pubescent.

4. **Picea rubra** (DuRoi) Dietr. RED SPRUCE.

Picea rubens of House and of B. & B.

Climax forest; a dominant species of well-drained wet slopes at low elevations and of exposed rocky well-drained slopes above 2200 feet; very common.

Pinus (Tourn.) L.

1. **Pinus resinosa** Ait. RED OR NORWAY PINE.

Moist well-drained sandy soil near the ranger station; rare. Planted and not observed to be naturalized.

2. **Pinus strobus** L. NORTHERN WHITE PINE.

Lake shores, bogs, plantations, and clearings; in moist well-drained sandy soil; common. Indicative of old fields when it occurs in pure stands. Attains best growth in mixture with the hardwoods.

Thuja L.

1. **Thuja occidentalis** L. ARBOR VITAE. WHITE CEDAR.

Bogs, stream banks, and lake shores; in poorly drained soils; common.

Tsuga (Endl.) Carr.

1. **Tsuga canadensis** (L.) Carr. HEMLOCK.

Climax forest; low elevations, near streams, swamps, and lakes; in moist rocky well-drained soils; common.

Subdivision II. *ANGIOSPERMAE*

Class I. *MONOCOTYLEDONEAE*

7. **PANDANALES**

9. *TYPHACEAE* (Cattail Family)

Typha (Tourn.) L.

1. **Typha latifolia** L. BROAD-LEAVED CATTAIL.

Marshy area along the creek east of the truck trail entrance; in wet mucky soil; rare.

10. SPARGANIACEAE (Bur-reed Family)

Sparganium (Tourn.) L.

- 1.
- Sparganium americanum**
- Nutt. NUTTALL'S BUR-REED.

Open wet places along the edges of lakes and stagnant ponds; in mucky soil; occasional.

- 2.
- Sparganium angustifolium**
- Michx. NARROW-LEAVED BUR-REED.

Floating-leaved aquatic, rooted in mucky soil; occasional in about 0.5 m. of water in ponds and slowly flowing streams.

- 3.
- Sparganium chlorocarpum**
- Rydb. var.
- acaule**
- (Beeby) Fern.

STEMLESS BUR-REED.

Sparganium acaule of B. & B.

Sparganium diversifolium var. *acaule* of Gray.

Open areas near water; in sandy or mucky soil; common. The variety differs from the species by having a very short stem.

- 4.
- Sparganium fluctuans**
- (Morong) Robinson. FLOATING BUR-REED.

Floating-leaved aquatic, rooted in mucky soil; occasional in 0.3-1 m. of water in lakes and ponds. Inflorescence somewhat corymbose at maturity.

8. HELOBIAE

11. POTAMOGETONACEAE (Pondweed Family)*

Potamogeton (Tourn.) L.

- 1.
- Potamogeton amplifolius**
- Tuckerm. LARGE-LEAVED PONDWEED.

Floating-leaved aquatic; rooted in mucky soil; occasional in 1-2 m. of water. Floating leaves 5-10 cm. long, 2-5 cm. broad, 30-50 nerved. Submersed leaves usually 2.5-7 cm. broad.

- 2.
- Potamogeton capillaceus**
- Poir. PONDWEED.

Potamogeton dimorphus of W. & E., of House, and of B. & B.

Potamogeton dimorphus, in part, of Gray.

Rooted aquatic; in mucky soil; occasional in 0.3-1 m. of water. Floating leaves 1-2.5 cm. long. Submersed peduncles as long as the spikes.

- 3.
- Potamogeton epihydrus**
- Raf. NUTTALL'S PONDWEED.

Floating-leaved aquatic; in mucky soil; very common in 0.5-1.5 m. of water of lakes and slowly flowing streams. Floating leaves 3-7.5 cm. long, 1-2.5 cm. broad, usually tapering into a short petiole.

* The nomenclature of the linear-leaved potamogetons is that of Fernald, '32.

For **Sparganium minimum** Fries. see Addenda p. 368.

For **Potamogeton gramineus** L. var. **Graminifolius** Fries. see Addenda p. 368.

4. **Potamogeton natans** L. COMMON FLOATING PONDWEED.

Floating-leaved aquatic; in sandy or mucky soil; common in 1-2 m. of water. Floating leaves 5-10 cm. long, 2.5-5 cm. wide, 20-30 nerved. Submersed leaves narrow, rarely 2 mm. wide.

5. **Potamogeton perfoliatus** L. CLASPING-LEAVED PONDWEED.

Submersed aquatic; rooted in sandy or mucky soil; occasional in 1-2 m. of water. Leaves all submersed, cordate-clasping with stipules rarely developed.

6. **Potamogeton pusillus** L. var. **typicus** Fern. SMALL PONDWEED.

Submersed aquatic; rooted in mucky soil; occasional in 0.3-1 m. of water.

7. **Potamogeton robbinsii** Oakes. ROBBIN'S PONDWEED.

Collection of W. A. Dence, "1.6 m. of water, north end of Catlin Lake, July, 1939". All leaves immersed, narrow-lanceolate, and minutely serrulate.

8. **Potamogeton spirillus** Tuckerm. SPIRAL PONDWEED.

Potamogeton dimorphus, in part, of Gray.

Floating-leaved aquatic; rooted in sand or muck; common in 0.3-0.6 m. of water in lakes and slowly flowing streams. Differs from *Potamogeton capillaceus* in not having submerged peduncles.

[**Potamogeton** sp. PONDWEED.

Collection of H. D. House, "No. 15385, Lake Harris outlet, August 13, 1927".]

[NAJADACEAE (Naiad Family)]

[**Najas** L.]

[**Najas flexilis** (Willd.) Rostk. & Schmidt. SLENDER NAIAD.

Najas flexilis of House and of B. & B.

Collection of H. D. House, "No. 8436, Lake Harris, August 2, 1921".]

[SCHEUCHZERIAACEAE (Arrow Grass Family)]

[**Scheuchzeria** L.]

[**Scheuchzeria palustris** L. var. **americana** FERN.

Collection of H. D. House, "No. 10588, marsh, Lake Harris, August 9, 1924". The American form of *Scheuchzeria palustris* (see Rhodora 25: 178. 1923).]

12. ALISMATACEAE (Water Plantain Family)

Sagittaria L.

1. **Sagittaria graminea** Michx. GRASS-LEAVED SAGITTARIA.

Open moist beaches or shallow water; in sand; occasional. Leaves linear, rarely sagittate.

2. **Sagittaria latifolia** Willd. BROAD-LEAVED ARROWHEAD.

Slowly moving water, marshes, lake shores, and open beaches; in wet sandy or mucky soil; common. The leaf outline of this plant varies greatly, with many intergrading forms. Within the Forest no segregates have been found worthy of nomenclatorial recognition.

13. HYDROCHARITACEAE (Frog's Bit Family)

Elodea Michx.

1. **Elodea occidentalis** (Pursh) St. John. WATER-WEED.

Philotria angustifolia of B. & B.

Philotria occidentalis of House.

Submersed aquatic; rooted in mucky bottoms of lakes and slowly moving streams; occasional.

9. GLUMIFLORAE

14. GRAMINEAE (Grass Family)*

Agropyron Gaertn.

1. **Agropyron repens** (L) Beauv. QUACKGRASS.

Roadsides and grassy clearings; in well-drained sandy soil; common.

[**Agropyron pauciflorum** (Schwein.) Hitchc. SLENDER WHEAT-GRASS.

Agropyron tenerum of Gray, of House, and of B. & B.

Collection of H. D. House, "No. 26853, banks along road 3 miles north of Tahawas, July 24, 1939".]

2. **Agropyron subsecundum** (Link) Hitchc. BEARDED WHEAT-GRASS.

Agropyron caninum of W. & E., of Gray, of House, and of B. & B.

Roadsides and clearings; in moist sandy soil; scarce.

* The nomenclature of Gramineae is that of Hitchcock, '35.
For *Valisneria americana* Michx. see Addenda p. 369.

Agrostis L.**1. Agrostis alba L.**

REDTOP.

Roadsides and clearings; in moist sandy soil; common. Escaped from cultivation, and has become naturalized.

[**Agrostis borealis** Hartm.

Collection of H. D. House, "No. 9357, thickets near Tahawas, June 23, 1923".]

2. Agrostis hiemalis (Walt.) BSP.

TICKLEGRASS.

Roadsides and clearings; in moist sandy soil; common. An occasional dwarfed form occurs on open mountain tops in organic soil on rocks.

[**Agrostis palustris** Hubs.

BENTGRASS.

Agrostis alba var. *maritima* of W. & E. and of Gray.

Agrostis maritima of B. & B.

Collection of H. D. House, "No. 10589, waste soil, Newcomb, August 9, 1924".]

3. Agrostis perennans (Walt.) Tuckerm.

AUTUMN BENT.

Collection of H. D. House, "No. 26911, marsh at south end of Wolf Pond, August 14, 1939".

4. Agrostis tenuis Sibth.

COLONIAL BENT.

Agrostis alba var. *vulgaris* of Gray.

Clearings and roadsides; in wet poorly drained sandy soils; scarce. Escaped from cultivation and naturalized.

4a. Agrostis tenuis Sibth. var. aristata (Parn.) Druce. COLONIAL BENT.

Clearings; in sandy well-drained soil; scarce. Differs from the species by having lemmas awned from near the base.

Anthoxanthum L.**1. Anthoxanthum odoratum L.**

SWEET VERNAL GRASS.

Roadsides and recently disturbed areas in clearings; in well-drained sandy soil; occasional.

Brachyelytrum Beauv.**1. Brachyelytrum erectum (Schreb.) Beauv.**

Dilepyrum erectum of W. & E.

Moderately open rocky hillsides; in moist sandy soil; occasional.

Bromus L.1. **Bromus ciliatus L.**

FRINGED BROME.

Roadsides and clearings; in moist well-drained sandy soil; occasional.

[**Bromus latiglumis** (Scribn.) Hitchc.

BROMEGRASS.

Bromus altissimus of W. & E. and of Gray.*Bromus purgans*, in part, of B. & B.

Collection of H. D. House, "No. 26631, bank of Hudson River about 200 feet south of Bissell's Garage, Newcomb, July 5, 1939".]

Calamagrostis Adans.1. **Calamagrostis canadensis** (Michx.) Beauv.

BLUEJOINT.

Marshes, meadows, and open woods; in wet mucky to sandy soil; common.

2. **Calamagrostis pickeringii** Gray.

REEDGRASS.

Margins of bogs and marshes; in mucky to sandy soil; scarce.

Cinna L.1. **Cinna latifolia** (Trev.) Griseb.

DROOPING WOODREED.

Roadsides and moderately open woods; in moist sandy soil; occasional.

Dactylis L.1. **Dactylis glomerata L.**

ORCHARD GRASS.

Roadsides and clearings; in moist well-drained sandy soil; common.

Danthonia Lam. & DC.1. **Danthonia spicata** (L.) Beauv.

POVERTY OATGRASS.

Clearings; in dry sandy or rocky soil; occasional.

Deschampsia Beauv.1. **Deschampsia flexuosa** (L.) Trin.

CRINKLED HAIRGRASS.

Aira flexuosa of House.

Moderately open mountain tops and slopes; in organic soil on rocks; occasional.

[**Echinochloa** Beauv.][**Echinochloa crusgalli** (L.) Beauv.

BARNYARD GRASS.

Collection of H. D. House, "No. 10692, waste ground, Newcomb, September 20, 1924".]

Elymus L.1. **Elymus villosus** Muhl.

WILD-RYE.

Elymus striatus of Gray, of W. & E., of House, and of B. & B.

Moderately closed hilltops under maple-ash-elm; in well-drained sandy and organic soils on rocks; rare.

2. **Elymus virginicus** L.

VIRGINIA WILD-RYE.

Low woodlands and along streams; in moist sandy soil; rare.

Festuca L.1. **Festuca elatior** L.

MEADOW FESCUE.

Roadsides and waste places; in moist sandy soil; scarce. Escaped from cultivation, and has become naturalized.

2. **Festuca obtusa** Spreng.

NODDING FESCUE.

Festuca nutans of W. & E., of Gray, and of B. & B.

Moderately closed mountain tops under maple-ash-elm; in well-drained sandy soil; scarce.

3. **Festuca rubra** L.

RED FESCUE.

Roadsides and grassy clearings; in moist well-drained sandy soil; common.

Glyceria R. Br.1. **Glyceria borealis** (Nash) Batch.

NORTHERN MANNAGRASS.

Panicularia borealis of House and of B. & B.

Beaver dams and lake shores; in wet sandy or mucky soil; scarce.

2. **Glyceria canadensis** (Michx.) Trin. RATTLESNAKE MANNA-GRASS.*Panicularia canadensis* of House and of B. & B.

Bogs, beaver dams, marshes, and lake shores; in wet mucky or sandy soil; occasional.

[**Glyceria canadensis** (Michx.) Trin. var. **laxa** (Scribn.) Hitchc.

Glyceria laxa of Gray.*Panicularia laxa* of House and of B. & B.

Collection of H. D. House, "No. 26648, marsh south of Johnson's Mill Pond, east of Newcomb, July 5, 1939". Differs from *Glyceria canadensis* by having 3-5 flowered spikelets.]

3. **Glyceria fernaldii** (Hitchc.) St. John. MANNAGRASS.

Glyceria neogaea of Hitchcock, not of Steud. The type of *Glyceria neogaea* was found by Hitchcock in 1935 to be *Glyceria striata*.

Glyceria pallida var. *fernaldii* of Gray.

Panicularia fernaldii of House.

Panicularia pallida, in part, of B. & B.

Beaver meadows in shallow water; rooted in mucky soil; rare.

4. **Glyceria melicaria** (Michx.) F. T. Hubb. MANNAGRASS.

Glyceria torreyana of Gray.

Panicularia melicaria of House.

Panicularia torreyana of B. & B.

Roadsides, creek banks, and lowlands; in wet sandy or mucky soil; common.

5. **Glyceria striata** (Lam.) Hitchc. FOWL MANNAGRASS.

Glyceria nervata of W. & E. and of Gray.

Panicularia nervata of House and of B. & B.

Creek banks and clearings; in wet sandy or mucky soil; common.

[**Hierochloë** R. Br.][**Hierochloë odorata** (L.) Beauv. SWEETGRASS.

Hierochloë odorata (L.) Wahl. of Gray.

Hierochloë odorata var. *fragrans* of W. & E.

Includes *Torresia nashii* of House.

Includes *Torresia odorata* of House.

Includes *Savastana nashii* of B. & B.

Includes *Savastana odorata* of B. & B.

Collection of H. D. House, "No. 8797, meadow near Newcomb, June 3, 1922".]

Hordeum L.[**Hordeum vulgare** L. BARLEY.

Collection of H. D. House, "No. 13483, spontaneous in a doorway, Newcomb, October 3, 1926".]

Leersia Sw.1. **Leersia oryzoides** (L.) Sw. RICE CUTGRASS.

Homalocenchrus oryzoides of House and B. & B.

Marsh at the head of Big Flow; in wet mucky soil; rare.

Milium L.1. **Milium effusum** L.

Moderately open ridges; in moist well-drained sandy or rocky soil; occasional.

Muhlenbergia Schreb.

1. **Muhlenbergia foliosa** (Roem. and Schult.) Trin. MUHLY.

Muhlenbergia foliosa Trin. of W. & E. and of Gray.

Muhlenbergia mexicana of B. & B.

Beaver dams and low meadows; in wet mucky or sandy soil; scarce.

- [**Muhlenbergia racemosa** (Michx.) BSP. SATIN-GRASS.

Collection of H. D. House, "No. 8457, rocky banks of Hudson River near Tahawas, August 3, 1921".]

- [**Muhlenbergia sylvatica** Torr. MUHLY.

Muhlenbergia umbrosa of House and of B. & B.

Collection of H. D. House, "No. 10724, moist soil, Newcomb, September 21, 1924".]

2. **Muhlenbergia uniflora** (Muhl.) Fern. MUHLY.

Sporobolus uniflorus of Gray, of House, and of B. & B.

Bogs and meadows; in wet mucky soil; scarce.

Oryzopsis Michx.

1. **Oryzopsis asperifolia** Michx. RICEGRASS.

Hardwood slopes and ridges; in moist humus layer on sand or rocks; occasional.

Panicum L.

1. **Panicum boreale** Nash. PANICUM.

Clearings and lake shores; in moist sandy soil; scarce.

- [**Panicum capillare** L. WITCHGRASS.

Collection of H. D. House, "No. 11400, garden weed, Newcomb, September 11, 1925".]

- [**Panicum huachucae** Ashe. PANICUM.

Panicum lindheimeri var. *fasciculatum* of W. & E.

Collection of H. D. House, "No. 26646, open field near Newcomb, July 5, 1939".]

2. **Panicum implicatum** Scribn. PANICUM.

Panicum lindheimeri var. *implicatum* of W. & E.

Roadsides and clearings; in sandy soil; occasional.

3. **Panicum philadelphicum** Bernh. PANICUM.
Roadsides and clearings; in sandy soil; common.

[**Panicum spretum** Schult. PANICUM.
Collection of H. D. House, "No. 10566, marshy shore of Lake Harris, August 17, 1924".]

[**Phalaris** L.]

- [**Phalaris arundinacea** L. REED CANARY GRASS.
Collection of H. D. House, "No. 15379, shore of Lake Harris, August 13, 1927".]

Phleum L.

1. **Phleum pratense** L. TIMOTHY.
Roadsides, clearings, and waste places; in well-drained sandy soil; common.

[**Phragmites** Trin.]

- [**Phragmites communis** Trin. REED GRASS.
Phragmites phragmites of House and of B. & B.
Collection of H. D. House, "No. 10711, banks of Hudson River near Newcomb, September 21, 1924".]

Poa L.

1. **Poa alsodes** Gray. BLUEGRASS.
Roadsides, lowlands, and wooded slopes; in moist organic layer on sandy soil; common.

2. **Poa annua** L. ANNUAL BLUEGRASS.
Along trail to lookout on Goodnow Mountain; in moist sandy soil; rare.

3. **Poa compressa** L. CANADA BLUEGRASS.
Clearings, roadsides, and low woods; in moist sandy soil; common.

4. **Poa languida** Hitchc. BLUEGRASS.
Poa debilis of W. & E., of Gray, of House, and of B. & B.
Beaver dams and margins of lakes and swamps; in wet mucky soil; occasional.

- [**Poa palustris** L. FOWL BLUEGRASS.
Poa triflora of Gray and of B. & B.
Collection of H. D. House, "No. 10243, woods, Newcomb, July 9, 1924; apparently introduced".]

5. *Poa pratensis* L. KENTUCKY BLUEGRASS.

Clearings, roadsides, abandoned camps, and open woods; in moist well-drained sandy soil; very common.

6. *Poa saltuensis* Fern. & Wieg. BLUEGRASS.

Open summit of Goodnow Mountain; in organic soil on rocks; rare.

Schizachne Hack.1. *Schizachne purpurascens* (Torr.) Swallen. FALSE MELIC.
PURPLE OAT.

Avena torreyi of B. & B.
Bromelica striata of W. & E.
Melica purpurascens of House.
Melica striata of Gray.

Burns, roadsides, clearings, and low woodlands; in moist sandy or mucky soil; common.

Setaria Beauv.1. *Setaria lutescens* (Weigel) F. T. Hubb. FOXTAIL. YELLOW
BRISTLEGRASS.

Chaetochloa glauca of B. & B.
Chaetochloa lutescens of House.
Setaria glauca of Gray.

Roadsides and recently disturbed areas; in sandy soil: rare.

[*Setaria viridis* (L.) Beauv. GREEN FOXTAIL.

Chaetochloa viridis of House and of B. & B.

Collection of H. D. House, "No. 15396, grain field near Newcomb, August 13, 1927".]

Trisetum Pers.1. *Trisetum spicatum* (L.) Richt. SPIKE TRisetum.

Collection of H. D. House, "No. 11022, small rocky bluff, east end of Rich Lake, June 13, 1925".

15. CYPERACEAE (Sedge Family)

Carex L.*[*Carex aenea* Fern. HAY SEDGE.

Collection of H. D. House, "No. 7397, woods near Newcomb, July 15-30, 1920".]

* The nomenclature of *Carex* is that of Mackenzie, '31 and '35.
For *Zea Mays* L. see Addenda p. 369.

1. **Carex angustior** Mackenzie. NORTHERN PRICKLY SEDGE.
Carex leersii of B. & B.
Carex stellulata var. *angustata* of Gray.
Beaver dam near Deer Pond; in wet organic soil near the water.
2. **Carex annectens** Bicknell. YELLOW FOX SEDGE.
Carex setacea var. *ambigua* of Gray.
Collection of H. D. House, "No. 26817, roadside along Catlin Lake, July 24, 1939".
3. **Carex arctata** Boott. DROOPING WOOD SEDGE.
Shaded uplands and along trails; in moist rich sandy soil.
4. **Carex aurea** Nutt. GOLDEN-FRUITED SEDGE.
Clearings and recently disturbed areas; in moist sandy soil.
5. **Carex baileyi** Britton. BAILEY'S SEDGE.
Carex lurida var. *gracilis* of Gray.
Collection of H. D. House, "No. 26675, damp roadside, Wolf Pond, July 11, 1939".
[**Carex bebbii** Olney. BEBB'S SEDGE.
Collection of H. D. House, "No. 26633, marshy areas in recent clearing near Newcomb, July 5, 1939".]
6. **Carex brunnescens** (Pers.) Poir. BROWNISH SEDGE.
Clearing near the field laboratory, west shore of Catlin Lake; in dry sandy soil.
7. **Carex buxbaumii** Wahl. BROWN SEDGE.
Carex polygama of W. & E. and of Gray.
Shore of Deer Pond; in wet sandy soil.
8. **Carex canescens** L. SILVERY SEDGE.
Roadsides and lake shores; in moist sandy soil. Collections of H. F. Heady (Nos. 286 and 273) were identified by Earl L. Core as var. *sublojiacca* Laestad., based on the distance between the spikes. Mackenzie considers this a normal variation not worthy of varietal rank.
9. **Carex castanea** Wahl. CHESTNUT SEDGE.
Abandoned cleared land; in well-drained sandy to wet springy soil.

9a. **Carex castanea** var. **kneiskernii** (Dewey) Mackenzie.*Carex kneiskernii* of House.

Collection of H. D. House, "No. 26645, dry slopes in cemetery, west of Newcomb, July 5, 1939".

[**Carex cephalantha** (Bailey) Bicknell. LITTLE PRICKLY SEDGE.*Carex leersii*, in part, of B. & B.*Carex muricata*, in part, of W. & E..*Carex stellulata* var. *cephalantha* of Gray.

Collection of H. D. House, "No. 26552, along Hudson River below bridge at Newcomb, June 22, 1939".]

[**Carex chlorophila** Mackenzie.*Carex irregularis* of House.*Carex oederi*, in part, of B. & B.*Carex oederi* var. *pumila*, in part of W. & E.

Collection of H. D. House, "No. 7394, shore of Lake Harris, July 15-30, 1920".]

10. **Carex communis** Bailey.

FIBROUS-ROOTED SEDGE.

Collections of E. L. Stone, "Nos. 39 and 76, from the top of the cliff on the southwest side of Panther Mountain; in dry organic soil, June 1938".

[**Carex comosa** Boott.

BRISTLY SEDGE.

Collection of H. D. House, "No. 7412, swamp near Newcomb, July 15-30, 1920".]

11. **Carex convoluta** Mackenzie.*Carex roscia* of Gray and of B. & B.

Top of Wolf Mountain; in well-drained sandy soil.

12. **Carex crawfordii** Fern.

CRAWFORD'S SEDGE.

Collection of H. D. House, "No. 26678, moist soil, Wolf Pond, July 11, 1939".

13. **Carex cryptolepis** Mackenzie.

SMALL YELLOW SEDGE.

Carex flava var. *rectirostra* of Gray.*Carex lepidocarpa* of B. & B.

Collection of H. D. House, "No. 26674, shore of Wolf Pond, July 11, 1939".

[**Carex deflexa** Hornem.

NORTHERN SEDGE.

Collection of H. D. House, "No. 8772, Newcomb, June 5, 1922".]

[**Carex deweyana** Schw.

DEWEY'S SEDGE.

Collection of H. D. House, "No. 7407, low woods, Newcomb, July 15-30, 1920".]

[**Carex diandra** Schrank.

LESSER PANICLED SEDGE.

Collection of H. D. House, "No. 14814, near Newcomb, July 9, 1927".]

[**Carex disperma** Dewey.

SOFT-LEAVED SEDGE.

Carex tenella of W. & E. and of Gray.

Collection of H. D. House, "No. 7408, bog near Newcomb, July 15-30, 1920".]

14. **Carex exilis** Dewey.

COAST SEDGE.

Shore of Deer Pond; in wet sandy or peaty soil.

15. **Carex flava** L.

YELLOW SEDGE.

Shore of Rich Lake; in well-drained sandy soil.

16. **Carex flexuosa** Muhl.

SLENDER-STALKED SEDGE.

Carex debilis var. *interjecta* of Gray.

Carex debilis var. *rudgei* of W. & E. and of Gray.

Collection of E. L. Stone, "Nos. 70 and 15, truck trail; in moist rich organic soil. June, 1938".

17. **Carex folliculata** L.

LONG SEDGE.

Swamp, north end of Catlin Lake; in wet mucky soil.

[**Carex gracillima** Schw.

GRACEFUL SEDGE.

Collection of H. D. House, "No. 7419, open woods, Newcomb, July 15-30, 1920".]

18. **Carex gynandra** Schw.

NODDING SEDGE.

Carex crinita var. *gynandra* of Gray.

Beaver dams, clearings, and roadsides; in mucky to wet sandy soil.

19. **Carex haydenii** Dewey.

HAYDEN'S SEDGE.

Carex stricta var. *decora* of Gray.

Collection of H. D. House, "No. 26640, shore of Rich Lake near the cemetery, July 5, 1939".

[**Carex houghtonii** Torr.

HOUGHTON'S SEDGE.

Collection of H. D. House, "No. 9040, in old clearing among berry bushes, Newcomb, July 13, 1922".]

[*Carex hystrix* Muhl.]

PORCUPINE SEDGE.

Collection of H. D. House, "No. 7420, swamps, near Newcomb, July 15-30, 1920".]

20. *Carex interior* Bailey.

INLAND SEDGE.

Carex scirpoides of Gray.

Collection of H. D. House, "No. 26673, marsh at south end of Wolf Pond, July 11, 1939".

21. *Carex intumescens* Rudge.

BLADDER SEDGE.

Roadsides, bottom lands, clearings and along trails; in moist rich sandy soil.

22. *Carex lacustris* Willd.

LAKE-BANK SEDGE.

Carex riparia of Gray.

Carex riparia var. *lacustris* of W. & E.

Collection of E. L. Stone, "No. 165, Fishing Brook Marsh, in fibrous muck, July 14, 1938".

23. *Carex lasiocarpa* Ehrh.

SLENDER SEDGE.

Carex filiformis of Gray.

Lake shores, marshes, and open areas in bogs; in very wet mucky soil that is covered with water for part of the season.

24. *Carex laxiflora* Lam.

LOOSE-FLOWERED SEDGE.

Carex anceps of W. & E. and of House.

Carex anceps, in part, of B. & B.

Carex laxiflora var. *patulifolia* of Gray.

Wooded slopes and lowlands; in moist rich sandy soil.

25. *Carex lenticularis* Michx.

LENTICULAR SEDGE.

Shore of Catlin Lake; in wet sandy soil.

26. *Carex leptalea* Wahl.

BRISTLE-STALKED SEDGE.

Collection of H. D. House, "No. 26677, marsh on Wolf Pond, July 11, 1939".

27. *Carex leptoneuria* Fern.

NORTHERN WOODLAND SEDGE.

Carex anceps, in part, of B. & B.

Includes *Carex laxiflora* var. *virians* of Gray.

Includes *Carex laxiflora* var. *leptoneuria* of Gray.

Wooded uplands and edges of ponds; in moist rich sandy soil.

[*Carex limosa* L.]

MUD SEDGE.

Collection of H. D. House, "No. 7436, bog near Newcomb, July 15-30, 1920".]

[**Carex lurida** Wahl. SALLOW SEDGE.

Collection of H. D. House, "No. 7439, wet places, Newcomb, July 15-30, 1920".]

28. **Carex michauxiana** Boeckl. MICHAUX'S SEDGE.

Carex abacta of House and of B. & B.

Bogs and margins of lakes; in wet mucky soil.

[**Carex novae-angliae** Schw. NEW ENGLAND SEDGE.

Collection of H. D. House, "No. 26521, dry banks near Newcomb, June 22, 1939".]

[**Carex oligosperma** Michx. FEW-SEEDED SEDGE.

Collection of H. D. House, "No. 7434, marsh on shore of Lake Harris, July 15-30, 1920".]

29. **Carex pallescens** L. PALE SEDGE.

Clearings near the state highway, in well-drained sandy soil.

30. **Carex pauciflora** Lightf. FEW-FLOWERED SEDGE.

Bog south of Wolf Pond; in wet sphagnum.

[**Carex paupercula** Michx. BOG SEDGE.

Collection of H. D. House, "No. 7437, bog near Newcomb, July 15-30, 1920".]

[**Carex peckii** E. C. Howe. PECK'S SEDGE.

Carex albicans of Gray and of B. & B.

Collection of H. D. House, "No. 8059, woods near Newcomb, June 11, 1921".]

[**Carex pedunculata** Muhl. LONG-STALKED SEDGE.

Collection of H. D. House, "No. 8790, dry woods, Newcomb, June 3, 1922".]

31. **Carex plantaginea** Lam. PLANTAIN-LEAVED SEDGE.

Low woodlands; in moist rich sandy soil; scarce.

[**Carex projecta** Mackenzie. NECKLACE SEDGE.

Carex tribuloides var. *reducta* of Gray.

Collection of H. D. House, "No. 14809, woods near Newcomb, July 9, 1927".]

[**Carex pseudo-cyperus** L. CYPERUS-LIKE SEDGE.

Collection of H. D. House, "No. 11011, marsh near Newcomb, June 11, 1925".]

[*Carex retrorsa* Schw.

RETROSE SEDGE.

Collection of H. D. House, "No. 15333, wet soil, Newcomb, August 11, 1927".]

32. *Carex rostrata* Stokes.

BEAKED SEDGE.

Bogs and shallow water of lakes and ponds; in wet mucky soil.

[*Carex rugosperma* Mackenzie.

Carex umbellata of W. & E., of Gray, and of House.

Collection of H. D. House, "No. 25599, sandy field at junction of Tahawas Road and state highway, June 9, 1938".]

33. *Carex scabrata* Schw.

ROUGH SEDGE.

Lake shores, low depressions in woodlands, and bogs; in wet mucky soil.

34. *Carex scoparia* Schk.

POINTED BROOM SEDGE.

Lake shores and roadsides; in well-drained sandy soil.

35. *Carex stipata* Muhl.

AWL-FRUITED SEDGE.

Lake shores and marshes; in wet sandy or mucky soil.

36. *Carex stricta* Lam.

TUSOCK SEDGE.

Carex stricta, in part, of B. & B.

Carex stricta var. *angustata* of Gray.

Little Deer Pond; in wet mucky soil.

37. *Carex strictior* Dewey.

NORTHERN TUSOCK SEDGE.

Carex stricta, in part, of B. & B.

Carex stricta var. *curtissima* of W. & E., and of Gray.

Includes *Carex stricta* of Gray.

Collections of H. D. House, "No. 7948, shore of Rich Lake, June 6, 1921".

38. *Carex substricta* (Kükenth.) Mackenzie. NORTHERN WATER SEDGE.

Carex aquatilis of W. & E., of Gray, and of B. & B.

Collection of E. L. Stone, "No. 12, water level at the boat house on Deer Pond, in fibrous muck, June 8, 1938".

[*Carex tenera* Dewey.

SLENDER STRAW SEDGE.

Carex straminea, in part, of House and of B. & B.

Carex straminea var. *echinodes* of Gray.

Carex tenera var. *echinodes* of W. & E.

Collection of H. D. House, "No. 14770, field near Tahawas, July 9, 1927".]

[*Carex tenuiflora* Wahl.

SPARSE-FLOWERED SEDGE.

Collection of H. D. House, "No. 7431, bog near Newcomb, July 15-30, 1920".]

39. *Carex trisperma* Dewey.

THREE-FRUITED SEDGE.

Beaver dam northeast of Deer Pond; in wet organic soil.

40. *Carex vesicaria* L.

INFLATED SEDGE.

Includes *Carex monile* of B. & B.

Includes *Carex vesicaria* of B. & B., and of Gray.

Includes *Carex vesicaria* var. *distenta* of Gray.

Includes *Carex vesicaria* var. *jejuna* of Gray.

Includes *Carex vesicaria* var. *monile* of Gray.

Carex vesicaria var. *monile* of W. & E.

Wooded lowlands, creek banks, and lake shores; in wet mucky soil.

[*Carex viridula* Michx.

GREEN SEDGE.

Carex oederi, in part, of B. & B.

Carex oederi var. *pumila*, in part, of W. & E. and of Gray.

Collection of H. D. House, "No. 7391, shore of Lake Harris, July 15-30, 1920".]

41. *Carex vulpinoidea* Michx.

FOX SEDGE.

Clearings, in well-drained sandy soil.

Cyperus (Tourn.) L.1. *Cyperus dentatus* Torr.

TOOTHED CYPERUS.

Shore of Catlin Lake; in wet sand.

[*Cyperus rivularis* Kunth.

SHINING CYPERUS.

Collection of H. D. House, "No. 26927, wet soil along banks near Newcomb, August 14, 1939".]

Dulichium Pers.1. *Dulichium arundinaceum* (L.) Britton.

DULICHIMUM.

Shores of lakes and ponds; in wet sand.

Eleocharis R. Br.*1. *Eleocharis acicularis* (L.) R. & S.

SPIKE RUSH.

Lake shores; in wet sand; occasional.

2. *Eleocharis elliptica* Kunth.

SLENDER SPIKE RUSH.

Eleocharis capitata, in part, of W. & E. and of House.

Eleocharis tenuis, in part, of Gray and of B. & B.

Along the state highway; in moist sandy soil.

* The nomenclature of *Eleocharis* is that of Svenson, '39.

3. **Eleocharis olivacea** Torr. BRIGHT GREEN SPIKE RUSH.
Collection of H. D. House, "No. 11386, muddy shore of Lodo Pond, September 9, 1925".
4. **Eleocharis obtusa** (Willd.) Schultes. BLUNT SPIKE RUSH.
Shore of Rich Lake; in wet sand.
[**Eleocharis ovata** (Roth) R. & S. OVOID SPIKE RUSH.
Eleocharis annua of House.
Collection of H. D. House, "No. 11335, wet soil, Newcomb, September 5, 1925".]
5. **Eleocharis palustris** (L.) R. & S. CREEPING SPIKE RUSH.
Collection of H. D. House, "No. 26903, marshy shore, south end of Wolf Pond, August 14, 1939".
[**Eleocharis robbinsii** Oakes. ROBBIN'S SPIKE RUSH.
Collection of H. D. House, "No. 15381, marsh on Lake Harris, August 13, 1927".]
6. **Eleocharis smallii** Britton. SMALL'S SPIKE RUSH.
Lake shores; in wet sand.

Eriophorum L.

- [**Eriophorum spissum** Fern. (see *Rhodora* 27; 208. 1925).
SHEATHED COTTON GRASS.
Eriophorum callitrix of W. & E., of Gray, of House, and of B. & B.
Collection of H. D. House, "No. 8016, marsh near Newcomb, June 8, 1921".]
- [**Eriophorum tenellum** Nutt. ROUGH COTTON GRASS.
Collection of H. D. House, "No. 7354, bog near Newcomb, July 15-30, 1920".]
1. **Eriophorum virginicum** L. COTTON GRASS.
Lodo Pond; in wet sphagnum.
2. **Eriophorum viridi-carinatum** (Engelm.) Fern. THIN-LEAVED COTTON GRASS.
Meadows, beaver dams, bogs, and lake shores; in wet mucky soil; scarce.

Fimbristylis Vahl.

- 1 **Fimbristylis autumnalis** (L.) R. & S. (see *Rhodora* 20: 24, 1918).

Fimbristylis frankii of Gray.

Fimbristylis geminata of B. & B.

Trichelostylis autumnalis of House.

Collection of H. D. House, "No. 11342, wet soil, outlet of Rich Lake, September 6, 1925".

[Mariscus (Hal.) Zinn.]

- [**Mariscus mariscoides** (Muhl.) Kuntze. WATER BOG RUSH.

Cladium mariscoides of Gray.

Collection of H. D. House, "No. 7346, wet sandy shores of Lake Harris, July 15-30, 1920".]

Rynchospora Vahl.

1. **Rynchospora alba** (L.) Vahl. BEAK RUSH.

Lodo Pond; in wet mucky soil.

2. **Rynchospora capitellata** (Michx.) Vahl. CLUSTERED BEAK RUSH.

Rynchospora glomerata of Gray and of B. & B.

Shore of Deer Pond; in wet sand.

3. **Rynchospora fusca** (L.) Ait.f. BROWNISH BEAKED RUSH.

Lodo Pond; in sphagnum and wet mucky areas.

Scirpus (Tourn.) L.

1. **Scirpus atrocinctus** Fern. NORTHERN WOOL GRASS.

Collection of E. L. Stone, "No. 91, Big Sucker Brook inlet glade, in moist sand, June 20, 1938".

2. **Scirpus atrovirens** Muhl. DARK GREEN BULRUSH.

Clearings, roadsides, and stream banks; in wet sandy or mucky soil.

- [**Scirpus atrovirens** Muhl. var. **georgianus** (Harper) Fern.

Scirpus georgianus of Gray.

Collection of H. D. House, "No. 7360, marsh, Newcomb, July 15-30, 1920". Differs from *Scirpus atrovirens* by having leaf blades less than 1 cm. wide, sheaths not nodulose, and bristles shorter than the achene.]

3. **Scirpus cyperinus** (L.) Kunth, var. **pelius** Fern. WOOL GRASS.

Scirpus cyperinus, in part, of B. & B.

Marshes and swamps; in wet mucky soil.

4. **Scirpus hudsonianus** (Michx.) Fern. ALPINE COTTON GRASS.

Eriophorum alpinum of House and of B. & B.

Bog south of Wolf Pond; in sphagnum and wet mucky areas.

[**Scirpus peckii** Britton.

PECK'S BULRUSH.

Collection of H. D. House, "No. 18528, edge of swamp east of Newcomb, July 28, 1931".]

5. **Scirpus pedicellatus** Fern.

WOOL GRASS.

Scirpus cyperinus, in part, of B. & B.

Clearings, swamps, and marshes; in wet mucky or sandy soil.

[**Scirpus rubrotinctus** Fern.

BULRUSH.

Scirpus microcarpus of House and of B. & B.

Collection of H. D. House, "No. 7361, swamp near Newcomb, July 15-30, 1920".]

6. **Scirpus subterminalis** Torr.

WATER CLUB RUSH.

Shallow water of Deer Pond; in muck.

[**Scirpus torreyi** Olney.

TORREY'S RUSH.

Collection of H. D. House, "No. 7357, shallow water, Lake Harris, July 15-30, 1920".]

[**Scirpus validus** Vahl.

BULRUSH.

Collection of H. D. House, "No. 10568, shore of Lake Harris, August 17, 1924".]

10. SPATHIFLORAE

16. ARACEAE (Arum Family)

Acorus L.

1. **Acorus calamus** L.

SWEET FLAG.

Collection of E. L. Stone, "No. 120, moist springy organic soil near the ranger station, June 25, 1938"; rare.

Arisaema Mart.

1. **Arisaema triphyllum** (L.) Schott. INDIAN TURNIP. JACK-IN-THE-PULPIT.

Woodlands and wet lowlands; in rich sandy or mucky soil; common. Small sterile plants are common in moist humus under mixed conifer-hardwood stands.

- [**Arisaema triphyllum** (L.) Schott var. **stewardsonii** (Britton) G. T. Stevens. (See *Rhodora* 23: 136. 1921.) STEWARDSON'S JACK-IN-THE-PULPIT.

Arisaema stewardsonii of B. & B. and of House.

Collection of H. D. House, "No. 8812, marsh near Newcomb, June 8, 1922". This is a geographic variety whose range overlaps that of the typical species on the Forest. Differs from the species by having leaves with green undersurface.]

Calla L.

1. **Calla palustris** L. WILD CALLA. WATER ARUM.

Boggy places and soft mucky soil; in shallow water around lakes and slowly moving streams; scarce.

II. FARINOSAE**17. XYRIDACEAE (Yellow-eyed Grass Family)****Xyris (Gronov.) L.**

1. **Xyris montana** Ries. NORTHERN YELLOW-EYED GRASS.

Collection of H. D. House, "No. 26901, shore of Wolf Pond, August 14, 1939"; rare.

18. ERIOCAULACEAE (Pipewort Family)**Eriocaulon (Gronov.) L.**

1. **Eriocaulon septangulare** With. SEVEN-ANGLED PIPEWORT.

Eriocaulon articulatum of Gray.

Wet mucky places in bogs, wet sandy lake shores, or on mucky or sandy bottoms; in water to a depth of 1-2 m. Scapes 2-20 cm. tall or as deep as the water when submersed.

19. PONTEDERIACEAE (Pickerel-weed Family)

Pontederia L.1. **Pontederia cordata** L. PICKEREL-WEED.

Emergent-leaved aquatic; in mucky soil along lake and stream margins; rare.

12. LILIIFLORAE

20. JUNCACEAE (Rush Family)

Juncus (Tourn.) L.1. **Juncus brevicaudatus** (Engelm.) Fern. NARROW-PANICLED RUSH.

Lake shores, marshes, and bog margins; in wet mucky or sandy soil; occasional.

[**Juncus bufonius** L. TOAD RUSH.

Collection of H. D. House, "No. 26928, dry roadside near Newcomb, August 14, 1939".]

2. **Juncus canadensis** J. Gay. CANADA RUSH.

Collection of H. D. House, "No. 26948, shore of Catlin Lake, August 23, 1939".

3. **Juncus dudleyi** Wieg. DUDLEY'S RUSH.

Open springy places in clearings; in sandy soil; scarce.

4. **Juncus effusus** L. var. **pylaei** (Laharpe) Fern. & Wieg. COMMON OR SOFT RUSH.

Juncus effusus, in part, of Gray and of B. & B.

Open meadows, creek banks, and borders of marshes; in very wet sandy or mucky soil; occasional.

5. **Juncus filiformis** L. THREAD RUSH.

Margins of lakes and along streams; in wet sandy soil; occasional.

6. **Juncus greenei** Oakes & Tuckerm. GREENE'S RUSH.

Collection of H. D. House, "No. 18704, sandy beach, east end of Rich Lake, August 6, 1931".

[**Juncus nodosus** L. KNOTTED RUSH.

Collection of H. D. House, "No. 15361, shore of Lake Harris, August 12, 1927".]

7. **Juncus pelocarpus** Mey. BROWN-FRUITED RUSH.

Lake shores and along creeks, often in shallow water; in wet sand; scarce.

8. **Juncus tenuis** Willd. PATH RUSH.

Collection of E. L. Stone, "No. 65, June 16, 1938, and No. 226, July 29, 1938; roadsides; in well-drained sandy soil; scarce".

Luzula DC.[**Luzula saltuensis** Fern. HAIRY WOOD RUSH.

Juncoides carolinac of House and of B. & B.

Collection of H. D. House, "No. 8817, edge of woods near Newcomb, June 8, 1922".]

1. **Luzula multiflora** (Ehrh.) Lejeune. (See *Rhodora* 40: 84. 1938.) COMMON WOOD RUSH.

Juncoides campestris, in part, of B. & B.

Juncoides intermedium of House.

Luzula campestris var. *multiflora* of W. & E. and of Gray.

Dry roadsides and clearings; in well-drained sandy soil; occasional.

21. LILIACEAE (Lily Family)

Asparagus (Tourn.) L.1. **Asparagus officinalis** L. GARDEN ASPARAGUS.

Open clearings, waste places, and old garden sites; in dry sandy soil; rare. Escaped from cultivation.

Clintonia Raf.1. **Clintonia borealis** (Ait.) Raf. YELLOW CLINTONIA. DOGBERRY.

Moderately closed woodlands; in mossy or humus layer on moist sandy soil; occasional.

Erythronium L.1. **Erythronium americanum** Ker. YELLOW ADDER'S TONGUE.

Open to moderately shaded areas under mixed conifer-hardwoods; in moist well-drained sandy soils; common, especially the small leaved sterile plants.

Hemerocallis L.1. **Hemerocallis flava** L. YELLOW DAY LILY.

Open dry clearings; in sandy soil; scarce. Persisting after cultivation. Distinguished from *Hemerocallis fulva* by having yellow flowers with perianth lobes essentially parallel-veined.

2. **Hemerocallis fulva** L.

DAY LILY.

Clearings, roadsides, and waste places; in well-drained sandy soil; occasional along the state highway. Escaped from cultivation. Flowers orange with perianth lobes essentially netted-veined.

Maianthemum Wiggers1. **Maianthemum canadense** Desf. FALSE LILY-OF-THE-VALLEY.
TWO-LEAVED SOLOMON'S SEAL.

Unifolium canadense of House and of B. & B.

Shaded woodlands and edges of clearings; in moist to dry sandy soil with a high organic content; very common.

Medeola (Gronov.) L.1. **Medeola virginiana** L.

INDIAN CUCUMBER-ROOT.

Open to shaded woodlands; in moist humus layer on sandy soil; common.

[**Polygonatum** (Tourn.) Hill][**Polygonatum pubescens** (Willd.) Pursh. SMALL SOLOMON'S SEAL.

Polygonatum biflorum of Gray and of B. & B.

Collection of H. D. House, "No. 8799, woods, Newcomb, June 3, 1922".]

Smilacina Desf.1. **Smilacina racemosa** (L.) Desf. FALSE SOLOMON'S SEAL. FALSE SPIKENARD.

Vagnera racemosa of House and of B. & B.

Open to shaded roadsides, banks, and rock slides; in humus on sandy soil; scarce.

[**Smilacina stellata** (L.) Desf. FALSE SOLOMON'S SEAL.

Vagnera stellata of House and of B. & B.

Collection of H. D. House, "No. 9397, shore of Lake Harris, June 28, 1923".]

[**Smilacina trifolia** (L.) Desf. THREE-LEAVED SOLOMON'S SEAL.

Vagnera trifolia of House and of B. & B.

Collections of H. D. House, "No. 8033, June 9, 1922 and No. 7444, July 15-30, 1920, marshes and spruce woods, Newcomb".]

For *Lilium tigrinum* Ker. see Addenda p. 369.

Smilax (Tourn.) L.1. **Smilax herbacea** L.

CARRION FLOWER.

Collection of E. L. Stone, "No. 96, trailside near ranger station, June 21, 1938; rare".

Streptopus Michx.1. **Streptopus amplexifolius** (L.) DC. CLASPING-LEAVED TWISTED STALK.

Mountain tops, cold mossy woods, and swamps; in organic layer on sandy soil; rare.

2. **Streptopus roseus** Michx. SESSILE-LEAVED TWISTED STALK.

Cool shaded woodlands, mountain tops, and roadsides; in humus layer on sandy or gravelly soil; common.

Trillium L.1. **Trillium erectum** L.

RED TRILLIUM. BIRTHROOT.

Closed woodlands and banks; in humus on moist sandy well-drained soil; scattered small single plants, many of them sterile. Leaves sessile.

2. **Trillium undulatum** Willd. PAINTED TRILLIUM. PAINTED WAKE-ROBIN.

Usually in closed hardwood types; in moist humus layer on sandy soil; scattered small single plants, many of them sterile. Leaves distinctly short-petioled.

Tulipa (Tourn.) L.1. **Tulipa** sp. (probably nearest to **Tulipa gesneriana** L.). Cultivated. TULIP.

Cemetery east of ranger station; in dry sandy soil. Not spreading.

Uvularia L.1. **Uvularia sessilifolia** L.

SESSILE-LEAVED BELLWORT.

Oakesia sessilifolia of Gray.*Oakesiella sessilifolia* of House.

Shaded woods and edges of clearings; in dry to moist humus layer on sandy soil; common.

Veratrum (Tourn.) L.1. **Veratrum viride** Ait. AMERICAN WHITE, FALSE, OR GREEN HELLEBORE. INDIAN POKE.

Shaded areas along creeks and wet lowlands; in rich sandy or alluvial soil; occasional.

22. AMARYLLIDACEAE (Narcissus Family)

Narcissus (Tourn.) L.

1. **Narcissus incomparabilis** L. Cultivated. NARCISSUS.
Cemetery east of ranger station; in dry sandy soil. Persistent, but not spreading.

2. **Narcissus pseudo-narcissus** L. Cultivated. DAFFODIL.
Cemetery east of ranger station; in dry sandy soil. Persistent, but not spreading. Differs from *Narcissus incomparabilis* by having a yellow crown nearly as long as the perianth.

23. IRIDACEAE (Iris Family)

Iris (Tourn.) L.

1. **Iris versicolor** L. BLUE FLAG.
Stream banks, edges of swamps, near springs, and clearings; in wet sandy soil which has a high organic content; common.

Sisyrinchium L.

1. **Sisyrinchium angustifolium** Mill. BLUE-EYED GRASS.
Grassy clearings and roadsides; in dry sandy soil; occasional.

13. MICROSPERMAE

24. ORCHIDACEAE (Orchid Family)

Arethusa (Gronov.) L.

1. **Arethusa bulbosa** L. ARETHUSA. DRAGON'S-MOUTH. WILD PINK.
Bogs and lake shores; in peaty soils; common.

Calopogon R. Br.

1. **Calopogon pulchellus** (Sw.) R. Br. CALOPOGON. GRASS PINK.
Cathea pulchella of House.
Limodorum tuberosum of B. & B.
Open sphagnum bog south of Wolf Pond; in mucky soil; scarce.

Corallorrhiza (Haller) Chat.

1. **Corallorrhiza maculata** Raf. LARGE CORALROOT.
Dry woodlands, usually where beech is present, and moist stream banks; in humus layer on sandy soil or wet peaty soil; occasional.

2. **Corallorrhiza trifida** Chat. SMALL CORALROOT.
Corallorrhiza corallorrhiza of House and of B. & B.
Dry woodlands; in humus layer on sandy soil; scarce.

Cypripedium L.

1. **Cypripedium acaule** Ait. STEMLESS LADY'S SLIPPER. MOCCASIN FLOWER.
Fissipes acaulis of B. & B.
Closed woodlands; in moist humus layer on sandy soil; scarce, plants occurring singly.
[**Cypripedium reginae** Walt. SHOWY LADY'S SLIPPER.
Cypripedium hirsutum of Gray.
Collection of H. D. House. "No. 26704, evergreen swamp east of Newcomb, July 11, 1939".]

Epipactis (Haller) Boehm.

- [**Epipactis repens** (L.) Crantz var. **ophioides** (Fern.) A. A. Eaton. RATTLESNAKE PLANTAIN.
Peramium ophioides of B. & B.
Peramium secundum of House.
Collection of H. D. House. "No. 7310, mossy woods, Newcomb, July 15-30, 1920".]
1. **Epipactis tessellata** (Lodd.) A. A. Eaton. RATTLESNAKE PLANTAIN.
Peramium tessellatum of House and of B. & B.
Under mixed conifer-hardwoods; in moist humus layer on sandy soil; scarce.

Habenaria Willd.

1. **Habenaria blephariglottis** (Willd.) Torr. WHITE FRINGED ORCHIS.
Blephariglottis blephariglottis of House and of B. & B.
Open mucky areas in bogs; rare.
2. **Habenaria bracteata** (Willd.) R. Br. LONG-BRACTED ORCHIS.
Coeloglossum bracteatum of House and of B. & B.
Partially closed woodlands; in warm moist humus layer on sandy soil; rare.

3. **Habenaria clavellata** (Michx.) Spreng. SMALL GREEN WOOD ORCHIS.

Gymnadeniopsis clavellata of House and of B. & B.

Open mucky areas in sphagnum bogs; scarce.

4. **Habenaria dilatata** (Pursh) Gray. TALL WHITE BOG ORCHIS.

Limnorchis dilatata of House and of B. & B.

Margins of sphagnum bogs; occasional. Flowers are very fragrant.

- [**Habenaria fimbriata** (Ait.) R. Br. PURPLE FRINGED ORCHIS.

Blephariglottis grandiflora of House and of B. & B.

Collection of H. D. House, "No. 9126, old beaver meadow near Newcomb, July 18, 1922".]

- [**Habenaria flava** (L.) Gray var. **virescens** (Muhl.) Fern. SMALL PALE-GREEN ORCHIS.

Habenaria flava, in part, of Gray.

Perularia flava, in part, of House and of B. & B.

Collection of H. D. House, "No. 7305, swamp near Newcomb, July 15-30, 1920".]

5. **Habenaria hyperborea** (L.) R. Br. TALL LEAFY GREEN ORCHIS.

Limnorchis hyperborea of House and of B. & B.

Woodlands in moist, rich sandy soil along streams and springs; scarce.

- [**Habenaria obtusata** (Pursh) Richards. SMALL NORTHERN BOG ORCHIS.

Lysiclla obtusata of House and of B. & B.

Collection of H. D. House, "No. 26705, swamp east of Newcomb, July 11, 1939".]

- [**Habenaria orbiculata** (Pursh) Torr. ROUND-LEAVED ORCHIS.

Lysias orbiculata of House and of B. & B.

Collection of H. D. House, "No. 7990, rich woods, Newcomb, June 7, 1921".]

6. **Habenaria psycodes** (L.) Sw. PURPLE FRINGED ORCHIS.

Blephariglottis psycodes of House and of B. & B.

Margins of bogs, roadsides, and open meadows; in wet mucky or sandy soil; occasional, especially along the state highway.

[**Liparis** Richard]

[**Liparis loeselii** (L.) Richard. TWAYBLADE.

Collection of H. D. House, "No. 8421, marsh near Newcomb, August 1, 1921".]

[**Listera** R. Br.]

[**Listera convallarioides** (Sw.) Torr. BROAD-LIPPED TWAYBLADE.

Ophrys convallarioides of House and of B. & B.

Collection of H. D. House, "No. 18520, cedar swamp near Newcomb, July 28, 1931".]

[**Listera cordata** (L.) R. Br. HEART-LEAVED TWAYBLADE.

Ophrys cordata of House and of B. & B.

Collection of H. D. House, "No. 7308, mossy, cedar-spruce swamp, Newcomb, July 15-30, 1920".]

[**Microstylis** (Nutt.) Eaton]

[**Microstylis monophyllos** (L.) Lindl. WHITE ADDER'S MOUTH.

Malaxis monophylla of House and of B. & B.

Collection of H. D. House, "No. 11069, mossy swamp, Newcomb, July 7, 1924".]

[**Microstylis unifolia** (Michx.) BSP. GREEN ADDER'S MOUTH.

Malaxis unifolia of House and of B. & B.

Collection of H. D. House, "No. 7301, mossy woods, Newcomb, July 15-30, 1920".]

Pogonia Juss.

1. **Pogonia ophioglossoides** (L.) Ker. ROSE POGONIA, SNAKE-MOUTH.

Sphagnum or sedge mat; in open bogs; occasional.

Spiranthes Richard

1. **Spiranthes cernua** (L.) Richard. AUTUMN LADIES' TRESSES.

Ibidium cernuum of House and of B. & B.

Margins of marshes and swamps; in open mucky soil; scarce.

Class II. DICOTYLEDONEAE

14. SALICALES

25. SALICACEAE (Willow Family)

Populus (Tourn.) L.

1. **Populus grandidentata** Michx. LARGE-TOOTHED ASPEN.

Clearings, lake shores, and burns; in well-drained sandy soil; occasional.

2. **Populus tacamahacca** Mill. BALSAM POPLAR. TACAMAHAC.

Populus balsamifera of Gray, of House, and of B. & B.

Clearings and low depressions along Rich Lake; in moist sandy soil; scarce.

3. **Populus tremuloides** Michx. TREMBLING OR QUAKING ASPEN.

Clearings, burns, lake shores, and hillsides; in moist sandy or stony soil; common.

Salix (Tourn.) L.

1. **Salix bebbiana** Sarg. BEBB'S WILLOW.

Salix rostrata of Gray.

Clearings, burns, beaver cuttings, lake shores, and recently disturbed areas; in dry sandy or stony soil; common.

2. **Salix discolor** Muhl. PUSSY WILLOW. GLAUCOUS WILLOW.

Roadsides, clearings, stream banks, and lake shores; in moist sandy or gravelly soil; common.

- 2a. **Salix discolor** Muhl. var. **prinoides** (Pursh) Anders.

Roadside at Fishing Brook bridge; in well-drained sandy soil; rare. Differs from the species by having narrower leaves.

[**Salix humilis** Marsh. PRAIRIE WILLOW.

Collection of H. D. House, "No. 14858, sandy bank in open woods. Newcomb, July 11, 1927".]

- 3 **Salix lucida** Muhl. SHINING WILLOW.

Swamps, stream banks, and wet roadsides; in sandy or mucky soil; scarce.

[**Salix lucida** Muhl. var. **angustifolia** Anders.

Collection of H. D. House, "No. 7205, marsh near Newcomb, July 16, 1920". Leaves glabrous, elongate-lanceolate.]

[**Salix lucida** Muhl. var. **intonsa** Fern.

Collection of H. D. House, "No. 14811, marsh near Newcomb, July 9, 1927". Leaves elliptic-lanceolate, permanently pubescent with sordid or rufous hairs.]

[**Salix pedicellaris** Pursh.

BOG WILLOW.

Collection of H. D. House, "No. 14855, Pruyn marsh, near Newcomb, July 10, 1927".]

4. **Salix petiolaris** J. E. Smith.

SLENDER WILLOW.

Swamps, marshes, bogs, and hillsides; in wet or dry sandy or mucky soil; occasional.

[**Salix pyrifolia** Anders.

BALSAM WILLOW.

Salix balsamifera of Gray.

Collection of H. D. House, "No. 14838, shore of Lake Harris, July 10, 1927".]

5. **Salix sericea** Marsh.

SILKY WILLOW.

Swamps and marshes; in wet mucky soil; occasional.

Salix cordata x sericea

Collection of H. D. House, "No. 14825, shore of Rich Lake, July 10, 1927". *Salix cordata* has not been collected from Newcomb or vicinity, although it occurs along the Hudson River a few miles below the village.

6. **Salix subsericea** (And.) Schn.

WILLOW.

Marsh, west end of Rich Lake; in wet mucky soil; scarce.

15. MYRICALES

26. MYRICACEAE (Sweet Gale Family)

Myrica L.1. **Myrica gale** L.

SWEET GALE. BAY BUSH.

Myrica gale, in part, of Gray and of B. & B.

Collection of H. D. House, "No. 26682, marsh, south end of Wolf Pond, July 11, 1939"; rare. Leaves more or less pubescent, at least on the veins beneath.

- 1a. **Myrica gale** L. var. **subglabra** (Chev.) Fern. (See *Rhodora* 16: 167. 1914.)

Myrica gale, in part, of Gray and of B. & B.

Stream banks, and margins of lakes, bogs, and marshes; in very wet sandy and mucky soil; common. Leaves glabrous or glabrate throughout.

[JUGLANDALES]

[JUGLANDACEAE (Walnut Family)]

[*Juglans* L.]

[*Juglans cinerea* L.]

BUTTERNUT.

Collection of H. D. House, "No. 14796, Hudson River east of Newcomb, July 9, 1927"; rare.]

16. FAGALES

27. BETULACEAE (Birch Family)

Alnus (Tourn.) Hill

1. *Alnus incana* (L.) Moench.

SPECKLED ALDER.

Stream banks, springy areas, and margins of lakes, marshes, and bogs; in wet mucky soil; common.

Betula (Tourn.) L.

1. *Betula lutea* Michx. f.

YELLOW BIRCH.

Climax forest; a dominant species of slopes and ridges; in moist sandy soil; very common.

2. *Betula papyrifera* Marsh.

PAPER, CANOE, or WHITE BIRCH.

Betula alba var. *papyrifera* of Gray.

Lake shores, and old fields; in well-drained sandy soil; common.

[*Betula papyrifera* Marsh var. *minor* (Tuckerm.) Wats. & Coult.

Betula alba var. *minor* of Gray.

Betula papyrifera, in part, of B. & B.

A dwarf form of *Betula papyrifera* from the exposed summit of Santanoni Peak.]

Corylus (Tourn.) L.

1. *Corylus cornuta* Marsh.

BEAKED HAZELNUT.

Corylus rostrata of Gray and of B. & B.

Thickets in thin woods and on ridges; in moist well-drained sandy soil; occasional.

Ostrya (Micheli) Scop.

1. **Ostrya virginiana** (Mill.) K. Koch. HOP HORNBEAM. IRON-WOOD.

Thick woods; in moist rocky soil; scarce.

28. FAGACEAE (Beech Family)

Fagus (Tourn.) L.

1. **Fagus grandifolia** Ehrh. BEECH.

Climax forest; dominant tree of hardwood forest; in moist well-drained sandy soil; very common.

Quercus (Tourn.) L.

1. **Quercus rubra** L. RED OAK.

Quercus borealis var. *maxima* of W. & E.

Few trees along the southwest ridge of Goodnow Mountain; on dry exposed rocky ledges; rare. According to Svenson (see *Rhodora* 41: 521-524. 1939), Linnaeus did not have specimens of the northern red oak, but his citations (1753) included references to this species among others. DuRoi, in 1772, chose a type, applying the name to a collection of the northern red oak.

17. URTICALES

29. ULMACEAE (Elm Family)

Humulus L.

1. **Humulus lupulus** L. Cultivated. COMMON HOP.

A few vines persisting for many years near cabin sites which have been abandoned; rare; not spreading.

Ulmus (Tourn.) L.

1. **Ulmus americana** L. AMERICAN OR WHITE ELM.

Clearings, old fields, and ridges; in rich moist sandy soil; scarce.

30. URTICACEAE (Nettle Family)

Laportea Gaud.

1. **Laportea canadensis** (L.) Gaud. WOOD NETTLE.

Urticastrum divaricatum of House and of B. & B.

Low woods along south side of Rich Lake; in rich moist sandy soil; rare.

[**Urtica** (Tourn.) L.][**Urtica gracilis** Ait.]

COMMON NETTLE.

Collection of H. D. House, "No. 15336, wet thickets, Newcomb, August 11, 1927".]

[**SANTALALES**][**LORANTHACEAE** (Mistletoe Family)][**Arceuthobium** Bieb.][**Arceuthobium pusillum** Peck.]

DWARF MISTLETOE.

Razoumofskyia pusilla of House and of B. & B.

Collection of H. D. House, "No. 7186, Newcomb, July 15-30, 1920. Parasite on *Picea mariana*."]]

18. **POLYGONALES**31. **POLYGONACEAE** (Buckwheat Family)[**Fagopyrum** (Tourn.) Gaertn.][**Fagopyrum esculentum** Moench.]

BUCKWHEAT.

Fagopyrum fagopyrum of House and of B. & B.

Collection of H. D. House, "No. 11423, weed in grain field, Newcomb, September 14, 1925".]

Polygonum (Tourn.) L.1. **Polygonum amphibium** L.

WATER SMARTWEED.

Persicaria amphibia of B. & B.

Polygonum fluitans of House.

Collection of H. D. House, "No. 15384, shore of Rich Lake, August 12, 1927".

2. **Polygonum aviculare** L.

KNOTWEED

Roadsides and clearings; in recently disturbed dry sandy soil; occasional.

3. **Polygonum cilinode** Michx.

FRINGED BLACK BINDWEED.

Tiniaria cilinodis of B. & B.

Trails, mountain tops, clearings, and roadsides; in dry well-drained sandy soil or moist humus on rocks; occasional. Differs from *Polygonum convolvulus* by having leaf sheaths fringed at the base with reflexed bristles.

4. **Polygonum convolvulus** L. BLACK BINDWEED.*Tiniaria convolvulus* of B. & B.

Roadsides and clearings; in well-drained sandy soil; occasional.
 Leaf sheaths naked at the base.

5. **Polygonum hydropiper** L. SMARTWEED. WATER PEPPER.*Persicaria hydropiper* of B. & B.

Stream bottoms and low depressions; in wet mucky or sandy soil;
 scarce.

6. **Polygonum persicaria** L. LADY'S THUMB. HEARTWEED.*Persicaria persicaria* of B. & B.

Roadsides, clearings, and recently disturbed areas; in wet or dry
 sandy soil; common.

7. **Polygonum sagittatum** L. ARROW-LEAVED TEARTHUMB.*Tracaulon sagittatum* of B. & B.

Lake shores and marshes; in wet sandy or mucky soil; scarce.

Rheum L.1. **Rheum rhaponticum** L. Cultivated. RHUBARB.

Few plants persisting after cultivation in clearings near the state
 highway; rare.

Rumex L.1. **Rumex acetosella** L. SHEEP, WOOD, OR FIELD SORREL.

Clearings, burns, roadsides, and old camps; in dry sandy soil;
 common.

2. **Rumex elongatus** Guss. CURLED OR YELLOW DOCK.

Grassy clearings, roadsides and recently disturbed areas; in dry
 sandy soil; occasional.

3. **Rumex obtusifolius** L. BITTER OR BROAD-LEAVED DOCK.

Roadsides, creek banks, and low depressions; in wet sandy soil;
 scarce.

19. **CENTROSPERMAE**32. **CHENOPODIACEAE** (Goosefoot Family)**Chenopodium** (Tourn.) L.1. **Chenopodium album** L. LAMB'S QUARTERS. PIGWEED.

Roadsides and clearings; in recently disturbed dry sandy soil;
 scarce.

33. AMARANTHACEAE (Amaranth Family)

Amaranthus (Tourn.) L.

1. **Amaranthus retroflexus** L. GREEN AMARANTH. PIGWEED.

Roadsides and clearings; in recently disturbed dry sandy soil; scarce.

34. PORTULACACEAE (Purslane Family)

Claytonia (Gronov.) L.

1. **Claytonia caroliniana** Michx. SPRING BEAUTY.

Roadsides, wooded slopes, and ridges; in moist humus or sandy soil; common.

Portulaca (Tourn.) L.

1. **Portulaca grandiflora** Hook. Cultivated. GARDEN PORTULACA.

Rock garden at the ranger station; in dry sandy soil; not spreading.

35. CARYOPHYLLACEAE (Pink Family)

[Agrostemma L.]

- [Agrostemma githago** L. CORN COCKLE.

Collection of H. D. House, "No. 11396. Newcomb, in cultivated field of oats, September 14, 1925".]

Cerastium L.

1. **Cerastium vulgatum** L. MOUSE-EAR CHICKWEED.

Roadsides, clearings, and disturbed areas; in well-drained sandy soil; scarce.

Dianthus L.

1. **Dianthus barbatus** L. Cultivated. SWEET WILLIAM.

Planted in the cemetery and spreading along the creek and near-by road; in moist sandy soil.

2. **Dianthus caryophyllus** L. Cultivated. CARNATION.

Planted in the cemetery; in dry sandy soil; not spreading.

Lychnis (Tourn.) L.

1. **Lychnis alba** Mill. WHITE CAMPION.

Roadsides and clearings near the state highway; in dry sandy soil; occasional.

2. **Lychnis chalcedonica** L. SCARLET LYCHNIS.

Along the state highway; in dry sandy soil; rare.

Saponaria L.

1. **Saponaria vaccaria** L. Cultivated. COW-HERB.
Vaccaria vaccaria of House and of B. & B.
Planted in the yard at the Arbutus Camp; not spreading.

Silene L.

1. **Silene latifolia** (Mill.) Brit. & Rend. BLADDER CAMPION.
Roadside near the ranger station; in dry sandy soil; rare.

Stellaria L.

1. **Stellaria aquatica** (L.) Scop. WATER CHICKWEED.
Alsine aquatica of B. & B.
Clearings near the state highway; in dry sandy soil; scarce.
[**Stellaria borealis** Bigel. NORTHERN STITCHWORT.
Alsine borealis of B. & B.
Collection of H. D. House, "No. 14790, wet woods near Newcomb,
July 9, 1927".]
2. **Stellaria graminea** L. LESSER STITCHWORT.
Alsine graminea of B. & B.
Roadsides and clearings; in moist sandy soil; occasional.
3. **Stellaria media** (L.) Cyrill. COMMON CHICKWEED.
Alsine media of B. & B.
Clearings, roadsides, and waste areas; in dry sandy soil; scarce.

20. RANALES

36. NYMPHAEACEAE (Water Lily Family)

Brasenia Schreb.

1. **Brasenia schreberi** Gmel. WATER SHIELD.
Floating-leaved aquatic in 0.5-2 m. of water; in lakes and stagnant water; occasional.

Nymphaea L.

1. **Nymphaea odorata** Ait. WHITE or SWEET WATER LILY.
Castalia odorata of Gray, of House, and of B. & B.
Floating-leaved aquatic in 0.3-3 m. of water; in lakes and bogs; occasional.

Nuphar Smith*

1. **Nuphar advena** (Solander) R. Br. var. **variegatum** Engelm.

YELLOW POND LILY. SPATTER-DOCK.

Nymphaea advena, in part, of B. & B.

Nymphaea advena var. *variegata* of Gray and of House.

Nymphoanthus variegatus of W. & E.

Floating-leaved aquatic in 1-2 m. of water; in lakes and bogs; common.

2. **Nuphar microphyllum** (Pers.) Fern. SMALL YELLOW POND LILY.

Nymphaea microphylla of Gray, of House, and of B. & B.

Nymphoanthus microphyllus of W. & E.

Floating-leaved aquatic at the west end of Rich Lake; in 1-2 m. of slowly flowing water; rare.

- [**Nuphar rubrodiscum** Morong. PECK'S YELLOW POND LILY.

Nymphaea rubrodisca of Gray and of House.

Collection of H. D. House, "No. 9068, Lake Harris, July 16, 1922".]

37. RANUNCULACEAE (Crowfoot Family)

Actaea L.

1. **Actaea alba** (L.) Mill. WHITE BANEERRY. WHITE COHOSH.

Moist rich woods, especially near clearings and along roads at the south end of the Forest; in sandy soils; occasional. Rare in the forest except on the maple-ash-basswood ridges, where it occasionally occurs.

2. **Actaea rubra** (Ait.) Willd. RED BANEERRY. RED COHOSH.

Rocky banks, edges of woods near clearings, and along roads; in sandy soil; scarce. Usually in a drier habitat than *Actaea alba*.

A form with white berries on slender pedicels has been collected by H. D. House, "No. 7184, open woods, Newcomb, July 15-30, 1920".

[**Anemone** (Tourn.) L.]

- [**Anemone virginiana** L. TALL ANEMONE. THIMBLE-WEED.

Collection of H. D. House, "No. 26516, sunny bank in light soil, 3 miles east of Newcomb, June 22, 1939".]

* The name *Nuphar* is included in the list of *nomina conservanda proposita* of the International Code.

Aquilegia (Tourn.) L.1. **Aquilegia vulgaris** L.

GARDEN COLUMBINE.

Moist, open, roadsides and clearings; in sandy soil along the state highway; occasional. Escaped from cultivation, and is rare near camps in the forest.

Caltha (Rupp.) L.1. **Caltha palustris** L.

MARSH MARIGOLD. COWSLIP.

Open mucky area along creek east of the truck trail entrance; rare. Found only in this location.

Clematis L.1. **Clematis virginiana** L. VIRGIN'S BOWER. WHITE CLEMATIS.
WOODBINE.

Stream banks, lake shores, and lowlands; in rich wet sandy loam; occasional. Usually associated with alder.

Coptis Salisb.1. **Coptis trifolia** (L.) Salisb.

GOLDTHREAD.

Mossy woods associated with hemlock and balsam, slightly raised areas in and around swamps; in wet well-drained organic soil; common. Usually under a moderately closed canopy.

Delphinium (Tourn.) L.1. **Delphinium elatum** L.

Cultivated. LARKSPUR.

Cemetery east of the ranger station; in dry sandy soil. Persistent but not spreading.

Paeonia L.1. **Paeonia albiflora** Pallas.

Cultivated. PAEONY.

Cemetery east of the ranger station; in dry sandy soil. Persistent but not spreading.

Ranunculus (Tourn.) L.1. **Ranunculus abortivus** L.

SMALL-FLOWERED BUTTERCUP.

Roadsides, stream banks, and wet lowlands; in well-drained sandy soils; occasional. Scattered plants along creeks and trails on moist wooded slopes where it is seldom over a foot tall.

2. **Ranunculus acris** L. TALL FIELD BUTTERCUP.
Open grasslands, clearings, roadsides, and waste places; usually in moist sandy well-drained soils; very common.

[**Ranunculus pensylvanicus** L. f. BRISTLY BUTTERCUP.

Collection of H. D. House, "No. 10562, open marshy soil, Newcomb, Aug. 17, 1924".]

3. **Ranunculus recurvatus** Poir. HOOKED BUTTERCUP.
Wet lowlands, creek banks, and springy areas in the hardwood forest; in sandy or mucky soil; common.

4. **Ranunculus repens** L. CREEPING BUTTERCUP.
Clearings, grasslands, and lake shores; in wet or dry sandy soils at the southern end of the Forest; scarce. Creeping habit.

5. **Ranunculus reptans** L. CREEPING SPEARWORT.
Ranunculus flammula var. *filiformis* of Gray.

Found once on the wet sandy shore of Rich Lake near the west end; rare. Small creeping plants rooting from all the nodes; leaves linear.

6. **Ranunculus septentrionalis** Poir. SWAMP BUTTERCUP.
Found once on the wet mucky creek bank near the junction of the truck trail and state highway; rare.

Thalictrum (Tourn.) L.

1. **Thalictrum polygamum** Muhl. var. **hebecarpum** Fern. TALL MEADOW RUE.

Thalictrum canadense var. *hebecarpum* of House.
Thalictrum polygamum of B. & B.

Partially shaded areas along creeks and swamps; in wet sandy or mucky soil; common. Differs from the species by having pubescent achenes.

[BERBERIDACEAE (Barberry Family)]

[**Caulophyllum** Michx.]

[**Caulophyllum thalictroides** (L.) Michx. BLUE COHOSH.

Collection of H. D. House, "No. 10755, woods near Newcomb, September 22, 1924".]

21. RHOEADALES

38. PAPAVERACEAE (Poppy Family)

Corydalis (Dill.) Medic.

- 1.
- Corydalis sempervirens**
- (L.) Pers. PALE CORYDALIS.

Capnoides sempervirens of House and of B. & B.

Open mountain tops and rock slides; in dry rocky soil; rare.

Dicentra Bernh.

- 1.
- Dicentra canadensis**
- (Goldie) Walp. SQUIRREL CORN.

Bicuculla canadensis of B. & B.*Capnorchis canadensis* of House.Woodlands at lower elevations; in moist well-drained soil; rare.
Stem from yellow pea-like corns.

- 2.
- Dicentra cucullaria**
- (L.) Bernh. DUTCHMAN'S BREECHES.

Bicuculla cucullaria of B. & B.*Capnorchis cucullaria* of House.

In situations similar to the preceding and usually associated with it; rare. Stems from a fleshy, loosely scaly bulb, fide W. & E.

- 3.
- Dicentra spectabilis**
- Lem. Cultivated. BLEEDING HEART.

Cemetery; in dry sandy soil; persistent but not spreading.

39. CRUCIFERAE (Mustard Family)

[**Arabis** L.]

- [
- Arabis glabra**
- (L.) Bernh. TOWER MUSTARD.

Collection of H. D. House, "No. 11010, roadside, Newcomb, June 11, 1925".]

Barbarea R. Br.

- 1.
- Barbarea verna**
- (Mill.) Asch. EARLY WINTER CRESS.

Campe verna of House.

Clearings and roadsides; in recently disturbed well-drained sandy soil; rare.

- 2.
- Barbarea vulgaris**
- R. Br. WINTER CRESS. SPRING MUSTARD.

Barbarca barbarca of B. & B.*Campe barbarca* of House.

Roadsides, clearings, and stream banks; in wet sandy or mucky soil; occasional.

Brassica (Tourn.) L.

1. **Brassica arvensis** (L.) Ktze. CHARLOCK. WILD MUSTARD.

Sinapis arvensis of B. & B.

Roadsides and clearings; in recently disturbed dry sandy soil; scarce.

[**Brassica rapa** L.

WILD TURNIP.

Brassica campestris, in part, of B. & B.

Collection of H. D. House, "No. 15337, roadside, Newcomb, August 11, 1927".]

Capsella Medic.

1. **Capsella bursa-pastoris** (L.) Medic. SHEPHERD'S PURSE.

Bursa bursa-pastoris of House and of B. & B.

Dooryards, clearings, and roadsides; in well-drained sandy soil; rare.

Cardamine (Tourn.) L.

1. **Cardamine pensylvanica** Muhl. BITTER CRESS.

Roadsides, clearings, lake shores, and springy areas in the woods; in wet sandy or mucky soil; common.

Dentaria (Tourn.) L.

1. **Dentaria diphylla** Michx. CRINKLEROOT. TOOTHWORT.

Low depressions in woodlands; in wet sandy and mucky soil; scarce.

[**Erysimum** (Tourn.) L.]

[**Erysimum cheiranthoides** L. WORM-SEED MUSTARD.

Cheirinia cheiranthoides of House and of B. & B.

Collection of H. D. House, "No. 13482, dooryard, Newcomb, October 3, 1926".]

Lepidium (Tourn.) L.

1. **Lepidium campestre** (L.) R. Br. DOWNY PEPPERGRASS.

Abandoned logging camp one-fourth mile south of Wolf Pond; in moist sandy soil; rare.

Lobularia Desv.

1. **Lobularia maritima** (L.) Desv. SWEET ALYSSUM.

Koniga maritima of House and of B. & B.

Road to ranger station; in dry gravelly soil; rare.

[**Raphanus** (Tourn.) L.]

[**Raphanus raphanistrum** L. WILD RADISH. JOINTED CHARLOCK.

Collection of H. D. House, "No. 26510, waste ground near Newcomb, June 22, 1939".]

[**Rorippa** Scop.]

[**Rorippa islandica** (Oeder ex Murray) Borbas var. **fernaldiana** Butters and Abbe. (See *Rhodora* 42: 28. 1940.) MARSH OR YELLOW WATER CRESS.

Radicula palustris, in part, of B. & B., of Gray, and of House.
Rorippa palustris, in part, of W. & E.

Collection of H. D. House, "No. 9048, shore of Lake Harris, July 13, 1922".]

[**Sisymbrium** (Tourn.) L.]

[**Sisymbrium altissimum** L. TUMBLE MUSTARD.
Norta altissima of House and of B. & B.

Collection of H. D. House, "No. 10715, waste ground, Newcomb, September 21, 1924".]

[**Sisymbrium officinale** (L.) Scop. HEDGE MUSTARD.
Erysimum officinale of House and of B. & B.

Collection of H. D. House, "No. 14815, waste ground, Newcomb, July 9, 1927".]

[**Subularia** L.]

[**Subularia aquatica** L. AWLWORT.

Collection of H. D. House, "No. 18703, shore and shallow water of Lake Harris, August 6, 1931".]

22. **SARRACENIALES**40. **SARRACENIACEAE** (Pitcher Plant Family)**Sarracenia** (Tourn.) L.

1. **Sarracenia purpurea** L. PITCHER PLANT.

Peat bogs and wet mucky soil along lake shores; occasional.

41. DROSERACEAE (Sundew Family)

Drosera L.

1. **Drosera longifolia** L. SPATULATE-LEAVED SUNDEW.

Drosera intermedia of House and of B. & B.

Collection of H. D. House, "No. 26916, shore south end of Catlin Lake, August 14, 1939; rare". Differs from *Drosera rotundifolia* by having spatulate leaf blades.

2. **Drosera rotundifolia** L. ROUND-LEAVED SUNDEW.

In moss and on rotten logs; in boggy areas; occasional.

23. ROSALES

42. CRASSULACEAE (Orpine Family)

Sedum (Tourn.) L.

- 1 **Sedum triphyllum** (Haw.) S. F. Gray. LIVE-FOR-EVER.

Sedum purpureum of Gray.

One station in the crevice of a rock near the ranger station, in dry organic soil; rare.

43. SAXIFRAGACEAE (Saxifrage Family)

Chrysosplenium (Tourn.) L.

1. **Chrysosplenium americanum** Schwein. GOLDEN SAXIFRAGE.
WATER CARPET.

Woodlands; in cold running water and wet mucky areas; scarce.

Hydrangea (Gronov.) L.

1. **Hydrangea arborescens** L. Cultivated. WILD HYDRANGEA.
Cemetery; in dry sandy soil; not spreading.

2. **Hydrangea paniculata** Sieb. var. **grandiflora** Sieb. Cultivated.
HYDRANGEA.

Cemetery; in dry sandy soil; not spreading.

Mitella (Tourn.) L.

1. **Mitella nuda** L. MITERWORT. NAKED BISHOP'S CAP.

Collection of H. D. House, "No. 26689, mossy woods near Wolf Pond, July 11, 1939".

Ribes L.

1. **Ribes cynosbati** L. PRICKLY GOOSEBERRY.

Grossularia cynosbati of B. & B.

Top of Wolf Mountain; in moist well-drained sandy soil; rare.

2. **Ribes lacustre** (Pers.) Poir. SWAMP BLACK CURRANT.

Rocky slopes and rock crevices; in wet organic soil; rare.

3. **Ribes prostratum** L'Her. SKUNK OR FETID CURRANT.

Ribes glandulosum of House and of B. & B.

Clearings, mountain tops, and rocky slopes; in well-drained sandy soil; common.

4. **Ribes rotundifolium** Michx. EASTERN WILD GOOSEBERRY.

Grossularia rotundifolia of B. & B.

Collection of H. D. House, "No. 11002, Goodnow Mountain, July 9, 1925".

- [**Ribes triste** Pall. WILD RED CURRANT.

Ribes triste, in part, of B. & B.

Collection of H. D. House, "No. 14767, swamp near Tahawas, July 9, 1927".]

- [**Ribes triste** Pall. var. **albinervium** (Michx.) Fern.

Ribes triste, in part of B. & B.

Collection of H. D. House, "No. 10995, openings in cold balsam swamp, Newcomb, July 9, 1925". Differs from the species by having leaves glabrous or sparingly pubescent beneath.]

Tiareella L.

1. **Tiareella cordifolia** L. FALSE MITERWORT.

Creek banks, wooded slopes, and low depressions; usually in moist humus on sandy soil; common.

44. ROSACEAE (Rose Family)

Agrimonia (Tourn.) L.

1. **Agrimonia gryposepala** Wallr. AGRIMONY.

Moderately shaded margins of clearings near the state highway; in well-drained sandy soil; scarce.

- [**Agrimonia striata** Michx. AGRIMONY.

Collection of H. D. House, "No. 13481, open woods, Newcomb, October 3, 1926".]

Amelanchier Medic.

1. **Amelanchier laevis** Wieg. SHADBUSH. JUNE BERRY. SERVICE-BERRY.

Amelanchier canadensis of Gray.

Amelanchier canadensis, in part, of B. & B.

Ackerman Clearing; in moist well-drained sandy soil; scarce.

2. **Amelanchier oligocarpa** (Michx.) Roem. JUNE BERRY. SERVICE-BERRY.

Amelanchier bartramiana of House and of B. & B.

Mountain tops and margins of clearings; in moist sandy soil; occasional.

Aronia Medic.

1. **Aronia melanocarpa** (Michx.) Britton. BLACK CHOKEBERRY.

Pyrus melanocarpa of Gray.

Clearings, lake shores, and margins of bogs; in wet sandy or organic soil; occasional.

Crataegus L.

- [**Crataegus brainerdii** Sarg. var. **egglestonii** (Sarg.) Robinson.

Crataegus brainerdii, in part, of B. & B.

Collection of H. D. House, "No. 7274, dry stony fields near Newcomb, July 15-30, 1920".]

1. **Crataegus levis** Sarg. (See *Rhodora* 7: 198. 1905). THORN.

Roadsides, clearings, and rocky ledges; in well-drained sandy soil; common.

2. **Crataegus macrosperma** Ashe. THORN.

Clearings near the state highway; in well-drained sandy soil; scarce.

- [**Crataegus macrosperma** Ashe var. **matura** (Sarg.) Eggl.

Collection of H. D. House, "No. 11404, open woods. Newcomb, September 11, 1925".]

3. **Crataegus pedicellata** Sarg. var. **albicans** (Ashe) Palmer.

Crataegus coccinea, in part, of W. & E.

Crataegus albicans of House and of B. & B.

Clearings near the state highway; in well-drained sandy soil; occasional. Differs from the species by having oval fruit.

4. **Crataegus** sp.

Margins of clearings; in well-drained sandy soil; occasional.

Dalibarda (Tourn.) L.

1. **Dalibarda repens** L. FALSE VIOLET.

Wooded slopes, low depressions, and along creeks; in moist humus; common.

Filipendula (Tourn.) Mill.

1. **Filipendula ulmaria** (L.) Maxim. QUEEN OF THE MEADOW.

Clearing near the CCC Camp; in dry sandy soil; scarce.

Fragaria (Tourn.) L.

1. **Fragaria vesca** L. var. **americana** Porter. STRAWBERRY.

Fragaria americana of House and of B. & B.

Collection of H. D. House, "No. 26628, open woods west of Newcomb, July 5, 1939".

2. **Fragaria virginiana** Duch. FIELD STRAWBERRY.

Lake shores, clearings, burns, and roadsides in moist sandy soil; common. Differs from *Fragaria vesca* var. *americana* by having ovoid fruit with the achenes imbedded in pits and larger flowers, about 2 cm. in diameter.

Geum L.

1. **Geum rivale** L. WATER OR PURPLE AVENS.

Creek banks and grassy clearings; in wet mucky areas; occasional.

2. **Geum strictum** Ait. YELLOW AVENS.

Creek banks; in wet mucky soil; occasional at the south end of the Forest.

Malus Mill.

1. **Malus pumila** Mill. COMMON APPLE.

Malus malus of House and of B. & B.

Pyrus malus of Gray.

Old fields, and clearings along the state highway; in well-drained sandy soil; occasional. Persisting after cultivation, but not spreading.

Potentilla L.

1. **Potentilla argentea** L. SILVERY CINQUEFOIL.

Roadsides; in dry sandy soil at the southern end of the Forest; scarce.

2. **Potentilla canadensis** L. var. **simplex** (Michx.) T. & G.
DECUMBENT FIVE-FINGERS.

Potentilla simplex of House and of B. & B.

Roadsides and clearings near the state highway; in dry sandy soil; occasional.

- [**Potentilla fruticosa** L. SHRUBBY CINQUEFOIL.

Dasiphora fruticosa of B. & B.

Collection of H. D. House, "No. 14845, moist shores, Lake Harris, July 10, 1927".]

3. **Potentilla norvegica** L. var. **hirsuta** (Michx.) Lehm. ROUGH CINQUEFOIL.

Potentilla monspeliensis of Gray, of House, and of B. & B.

Roadsides and clearings near the state highway; in well-drained sandy soil; common.

4. **Potentilla palustris** (L.) Scop. MARSH CINQUEFOIL.

Comarum palustre of House and of B. & B.

Swamps and marshes; in wet mucky soil; scarce.

5. **Potentilla recta** L. YELLOW CINQUEFOIL.

Potentilla recta var. *sulphurea* of House.

Roadsides and clearings near the state highway; in well-drained sandy soil; occasional.

- [**Potentilla tridentata** Ait. THREE-TOOTHED CINQUEFOIL.

Sibbaldiopsis tridentata of B. & B.

One station on Santanoni Peak, in exposed organic soil; not found on the Forest.]

Prunus (Tourn.) L.

1. **Prunus nigra** Ait. WILD PLUM.

Clearings near the state highway; in sandy soil; scarce. Persisting after cultivation but not spreading. Leaves broadly obovate, doubly crenate-serrate, and subcaudately acuminate.

2. **Prunus pensylvanica** L. f. PIN OR FIRE CHERRY.

Burns and clearings; in sandy soil; occasional. One of the first plants to invade burned slopes. Leaves oblong-lanceolate, very finely and unequally crenate-dentate, and gradually pointed.

3. **Prunus serotina** Ehrh. BLACK CHERRY.

Padus virginiana of B. & B.

Mountain tops, south-facing ledges, and margins of clearings; in dry or moist sandy soil; occasional. Leaves elliptical or lanceolate, often with reddish-brown tomentum on the midvein beneath, and serrate with short incurved teeth.

4. **Prunus virginiana** L. CHOKE CHERRY.

Padus nana of B. & B.

Clearings and roadsides in sandy soil; occasional. Leaves obovate or oval, abruptly pointed, sharply (often doubly) serrate with slender teeth.

Rosa (Tourn.) L.

- [**Rosa blanda** Ait. MEADOW ROSE.

Collection of H. D. House, "No. 7277, common in moist places, shore of Lake Harris, July 15-30, 1920".]

1. **Rosa carolina** L. var. **villosa** (Best.) Rehd. LOW PASTURE ROSE.

Rosa humilis of Gray.

Rosa virginiana of B. & B.

Clearings, roadsides, and waste areas; in dry sandy soil; common. A form with double flowers (H. F. Heady, Nos. 513 and 522) occurs near the ranger station and in one of the old fields near the CCC Camp.

2. **Rosa damascena** L. Cultivated. DAMASK ROSE.

Cemetery; in well-drained sandy soil; persistent but not spreading.

3. **Rosa palustris** Marsh. SWAMP or WILD ROSE.

Rosa carolina of Gray and of B. & B.

Creek banks and lake shores; in wet sandy soil; common.

4. **Rosa spinosissima** L. Cultivated. SCOTCH ROSE.

Cemetery; in dry sandy soil; persistent but not spreading.

5. **Rosa suffulta** Greene. ROSE.

Collection of E. L. Stone, "No. 171, clearing near the ranger station in dry sandy soil, July 14, 1938; rare".

- [**Rosa suffulta** Greene var. **valida** Erlanson. ROSE.

Collection of H. D. House, "No. 9079, old field near Newcomb, July 18, 1922".]

Rubus (Tourn.) L.1. **Rubus acaulis** Michx.

DWARF RASPBERRY.

Rubus pubescens of W. & E. and of House.*Rubus triflorus* of Gray and of B. & B.

Roadsides, clearings, and woodlands; in wet sandy well-drained soil; common.

2. **Rubus allegheniensis** Porter.

COMMON BLACKBERRY.

Clearings and roadsides; in well-drained sandy or gravelly soil; common.

[**Rubus amicalis** Blanch.

BLACKBERRY.

Rubus canadensis, in part, of Gray, of House, and of B. & B.

Collection of H. D. House, "No. 8024, moist roadside thicket near Hudson River Bridge, June 8, 1921".]

3. **Rubus canadensis** L. var. **elegantulus** Farw.

BLACKBERRY.

Rubus canadensis, in part, of B. & B.*Rubus elegantulus* of Gray and of House.

Clearings and roadsides; in well-drained sandy soil; common.

4. **Rubus glandicaulis** Blanch.

Collection of H. D. House, "No. 14821, Rich Lake, July 10, 1927".

[**Rubus hispidus** L.

Collection of H. D. House, "No. 7268, dried-up bog, Newcomb, July 15-30, 1920".]

[**Rubus hispidus** L. var. **major** Blanch.

Collection of H. D. House, "No. 11413, open woods, Fishing Brook Dam, September 15, 1925".]

5. **Rubus idaeus** L. var. **canadensis** Rich.

RED RASPBERRY.

Rubus strigosus, in part, of B. & B.*Rubus strigosus* var. *canadensis* of House.

Mountain tops, trails, roadsides, and clearings; in moist sandy or rocky soil; common. New canes pubescent or somewhat tomentulose beneath the prickles.

5a. **Rubus idaeus** L. var. **strigosus** Michx.) Maxim. RED RASPBERRY.*Rubus idaeus* var. *aculeatissimus* of Gray.*Rubus strigosus* of House.*Rubus strigosus*, in part, of B. & B.

Clearings, roadsides, and wooded slopes; in moist humus or sandy soil; very common. New canes glabrous or nearly so beneath the prickles.

6. **Rubus junceus** Blanch.

Collection of H. D. House, "No. 18703, thickets along shore of Rich Lake, August 6, 1931".

7. **Rubus montpelierensis** Blanch.

Clearing at the base of the Goodnow Mountain trail; in well-drained sandy soil; scarce.

8. **Rubus nigricans** Rydb.

SWAMP BLACKBERRY.

Rubus setosus of House.

Bogs and swamps; in wet organic soil; occasional.

[**Rubus odoratus** L.

FLOWERING RASPBERRY.

Collection of H. D. House, "Tahawas, July 18, 1922".]

[**Rubus pergratus** Blanch.

Collection of H. D. House, "No. 7271, edge of woods, Newcomb, July 15-30, 1920".]

9 **Rubus** sp.

BLACKBERRY.

Clearing near the state highway; in dry sandy soil; rare.

Sanguisorba (Rupp.) L.1 **Sanguisorba canadensis** L.

CANADIAN BURNET.

Collection of H. D. House, "No. 26931, damp meadow near Newcomb, August 14, 1939".

Sorbus (Tourn.) L.1 **Sorbus americana** Marsh.

MOUNTAIN ASH.

Pyrus americana of Gray.

Lake shores, rock ridges, and mountain tops; in moist well-drained sandy soil; occasional. Leaflets lanceolate-acuminate.

[**Sorbus dumosa** Greene.

NORTHERN MOUNTAIN ASH.

Pyrus sitchensis of Gray.

Sorbus scopulina of B. & B.

Collection of W. C. Muenschner and A. A. Lindsey, "No. 3396, along the shore of Lake Harris, August 29, 1932". Leaflets elliptic-oblong, mostly obtuse or abruptly pointed.]

Spiraea (Tourn.) L.1. **Spiraea latifolia** (Ait.) Borkh.

MEADOW SWEET.

Marshes, lake shores, and bog margins; in wet organic or sandy soil; occasional.

Vicia (Tourn.) L.

1. **Vicia cracca** L. WILD, BLUE, OR TUFTED VETCH.
Meadows, clearings, and roadsides; in moist sandy soil; common.
[**Vicia angustifolia** (L.) Reich. NARROW-LEAVED VETCH.
Collection of H. D. House, "No. 11394, in a field of oats near
Newcomb, September 14, 1925".]

24. **GERANIALES**46. **OXALIDACEAE** (Wood Sorrel Family)**Oxalis** L.

1. **Oxalis montana** Raf. PINK WOOD SORREL.
Oxalis acetosella of Gray, of House, and of B. & B.
Deep woods; in moist humus; very common, especially with witch
hobble.
2. **Oxalis europaea** Jord. forma **cymosa** (Small) Wieg. (See *Rho-*
dora 27: 135. 1925.) YELLOW WOOD SORREL.
Xanthoxalis cymosa of B. & B.
Collection of H. D. House, "No. 26818, moist sandy roadside near
Catlin Lake, July 24, 1939". Stems nearly or quite glabrous;
pedicels villous and more or less viscid.
- 2a. **Oxalis europaea** Jord. forma **villicaulis** Wieg. YELLOW WOOD
SORREL.
Oxalis corniculata of Gray.
Xanthoxalis cymosa of B. & B.
Roadsides, clearings, and waste places in dry sandy or gravelly
soil; occasional. Stems and pedicels villous.

47. **GERANIACEAE** (Geranium Family)**Pelargonium** L'Her.

1. **Pelargonium hortorum** Bailey. Cultivated. GERANIUM.
Planted during the growing season in the cemetery west of New-
comb, apparently not persisting through the winter.

48. **TROPAEOLACEAE** (Nasturtium Family)**Tropaeolum** L.

1. **Tropaeolum majus** L. Cultivated. NASTURTIIUM.
Yard of the Arbutus Camp; in moist sandy soil. Annual, not sur-
viving the winter.

[LINACEAE (Flax Family)]

[**Linum** (Tourn.) L.][**Linum usitatissimum** L.]

COMMON FLAX

Collection of H. D. House, "No. 11395, cultivated field of oats near Newcomb, September 14, 1925".]

49. EUPHORBIACEAE (Spurge Family)

Euphorbia L.1. **Euphorbia cyparissias** L.

CYPRESS SPURGE.

Tithymalus cyparissias of B. & B.

Clearing near the ranger station; in dry sandy soil; rare.

[CALLITRICHACEAE (Water Starwort Family)]

[**Callitriche** L.]**Callitriche palustris** L.

WATER STARWORT.

Collection of H. D. House, "No. 7239, along wet trail in woods, Newcomb, July 15-30, 1920".]

25. SAPINDALES

[EMPETRACEAE (Crowberry Family)]

[**Empetrum** (Tourn.) L.][**Empetrum nigrum** L.]

BLACK CROWBERRY.

Santanoni Peak; in exposed organic material between the rocks; not found on the Forest.]

50. ANACARDIACEAE (Cashew Family)

Rhus (Tourn.) L.1. **Rhus toxicodendron** L.

POISON IVY. POISON OAK.

Toxicodendron toxicodendron of B. & B.

Shore of Rich Lake; in moist sand; rare.

2. **Rhus typhina** L.

STAGHORN SUMACH.

Rhus hirta of B. & B.

Collection of H. D. House, "No. 10558, thicket, Rich Lake, August 16, 1924"; rare.

51. AQUIFOLIACEAE (Holly Family)

Ilex L.

1. **Ilex verticillata** (L.) Gray. WINTERBERRY. BLACK ALDER.
DECIDUOUS HOLLY.

Lake shores, stream banks, and margins of marshes; in wet sandy or mucky soil; occasional.

Nemopanthus Raf.

1. **Nemopanthus mucronata** (L.) Trel. MOUNTAIN HOLLY.

Lake shores, marshes, and bog margins; in moist sandy or mucky soil; occasional.

52. CELASTRACEAE (Staff Tree Family)

Celastrus L.

1. **Celastrus scandens** L. CLIMBING BITTERSWEET.

Collection of H. D. House, "No. 10950, rocky bank at the outlet of Rich Lake, July 2, 1925"; rare.

53. ACERACEAE (Maple Family)

Acer (Tourn.) L.

1. **Acer pensylvanicum** L. STRIPED MAPLE. MOOSEWOOD.

Ridges and shaded slopes of mixed conifer-hardwoods; in moist rich sandy soil; common.

2. **Acer rubrum** L. RED MAPLE. SOFT MAPLE.

Clearings, stream banks, wooded slopes, ridges, and margins of bogs, lakes, and marshes; in wet sandy, mucky or even boggy soil; very common.

3. **Acer saccharinum** L. SILVER, SOFT, OR WHITE MAPLE.

One station on the east shore of Catlin Lake near The Narrows; in wet sandy soil; rare.

4. **Acer saccharum** Marsh. SUGAR OR ROCK MAPLE.

Climax forest; wooded slopes, and edges of clearings; in moist well-drained sandy soil; very common.

5. **Acer spicatum** Lam. MOUNTAIN MAPLE.

Wooded slopes, low depressions, creek banks, and margins of swamps; in moist rich sandy soil; common.

54. BALSAMINACEAE (Touch-me-not Family)

Impatiens (Riv.) L.

1. **Impatiens biflora** Walt. SPOTTED TOUCH-ME-NOT. JEWEL-WEED.

Roadsides and open areas along streams; in wet rich sandy soil; occasional.

26. RHAMNALES

55. RHAMNACEAE (Buckthorn Family)

Rhamnus (Tourn.) L.

1. **Rhamnus alnifolia** L'Her. SWAMP BUCKTHORN.

Margins of swampy areas, creek banks, springy areas and low depressions; in wet mucky or sandy soil; occasional.

56. VITACEAE (Grape Family)

Parthenocissus Planch.

1. **Parthenocissus quinquefolia** (L.) Planch. VIRGINIA CREEPER. WOODBINE.

Parthenocissus quinquefolia, in part, of B. & B.
Pseclera quinquefolia of Gray and of House.

Roadsides and clearings; in moist sandy soil; rare. Escaped from cultivation. May be trailing on the ground if no trees or shrubs are present.

- 1a. **Parthenocissus quinquefolia** (L.) Planch. var. **hirsuta** (Donn) Planch. VIRGINIA CREEPER. WOODBINE.

Parthenocissus quinquefolia, in part, of B. & B.
Pseclera quinquefolia var. *hirsuta* of Gray and of House.

A pubescent form of *Parthenocissus quinquefolia* planted at the Arbutus Camp, and not spreading.

Vitis (Tourn.) L.

1. **Vitis novae-angliae** Fern. (See *Rhodora* 19: 146. 1917.) WILD GRAPE. NEW ENGLAND GRAPE.

Clearings along the state highway; in dry sandy soil; rare. Persistent after cultivation, but not spreading.

27. MALVALES

57. TILIACEAE (Linden Family)

Tilia (Tourn.) L.

1. **Tilia americana** L. BASSWOOD. LINDEN.
Ridges and south-facing slopes; in well-drained sandy soil; scarce.

58. MALVACEAE (Mallow Family)

Malva (Tourn.) L.

1. **Malva moschata** L. MUSK MALLOW.
Clearing near the ranger station; in moist sandy soil; rare.

28. PARIETALES

59. GUTTIFERAE (St. John's-wort Family)

Hypericum (Tourn.) L.

1. **Hypericum boreale** (Britton) Bicknell. NORTHERN ST. JOHN'S-WORT.
Open beaches; in wet sandy soil; scarce.
2. **Hypericum canadense** L. CANADIAN ST. JOHN'S-WORT.
Beach at the south end of Wolf Pond; in moist sandy soil; rare.
3. **Hypericum ellipticum** Hook. ELLIPTIC-LEAVED ST. JOHN'S-WORT.
Lake shores, swamps, and marshes; in wet mucky or sandy soil; common.
- [**Hypericum mutilum** L. SMALL-FLOWERED ST. JOHN'S-WORT.
Collection of H. D. House, "No. 11405, wet meadow, Newcomb, September 10-15, 1925".]
4. **Hypericum perforatum** L. COMMON ST. JOHN'S-WORT.
Clearings, roadsides, and waste areas; in dry sandy soil; common.
- [**Hypericum punctatum** Lam. SPOTTED ST. JOHN'S-WORT.
Collection of H. D. House, "No. 10553, Ord's Landing on the Hudson River below Newcomb, August 15, 1924".]
5. **Hypericum virginicum** L. var. **fraseri** (Spach.) Fern. (See *Rhodora* 38: 434. 1936.) MARSH ST. JOHN'S-WORT.
Hypericum virginicum, in part, of W. & E. and of Gray.
Triadenum virginicum, in part, of House and of B. & B.
Lake shores, marshes, swamps, and bogs; in wet mucky or sandy soil; common.

60. VIOLACEAE (Violet Family)

Viola (Tourn.) L.[*Viola blanda* Willd.

WHITE VIOLET.

Collection of H. D. House, "No. 26707, swamp on the Chase Road east of Newcomb, July 11, 1939".]

1. *Viola canadensis* L.

CANADA VIOLET.

Wooded slopes, ridges, and creek banks; in wet rich sandy soil; scarce.

2. *Viola conspersa* Reich.

DOG VIOLET.

Roadside near the cemetery; in moist sandy soil; scarce.

3. *Viola cucullata* Ait.

MARSH BLUE VIOLET.

Wooded slopes, depressions, and stream banks in wet rich sandy or organic soil; common.

[*Viola cucullata* x *septentrionalis*]

[Collection of H. D. House, "No. 8806, moist roadside, partial shade, Pruyn Estate, June 3, 1922".]

4. *Viola eriocarpa* Schwein. var. *leiocarpa* Fern. & Wieg. YELLOW VIOLET.

Viola scabriuscula, in part, of Gray.

Viola eriocarpa, in part, of B. & B.

Roadsides, clearings, and ridges; in moist sandy soil; occasional.

5. *Viola incognita* Brainerd.

WHITE VIOLET.

Viola incognita, in part, of Gray.

Ridges; in moist rich sandy soil; scarce.

5a. *Viola incognita* Brainerd var. *forbesii* Brainerd. WHITE VIOLET.

Viola incognita, in part, of Gray.

Collection of H. D. House, "No. 26617, slope back of cemetery west of Newcomb, July 5, 1939". Differs from the species by having leaves glabrous below.

6. *Viola lanceolata* L.

LANCE-LEAVED VIOLET.

Collection of E. L. Stone, "No. 90, Big Sucker Brook inlet glade; in moist sand, June 20, 1938".

[*Viola lanceolata* x *pallens*]

[Collection of H. D. House, "No. 7254, moist shores of Lake Harris, July 15-30, 1920".]

7. **Viola pallens** (Banks) Brainerd. WHITE VIOLET.

Collection of E. L. Stone, "No. 4, 1-line and 130-chain stake, in deep moist organic soil, June 8, 1938".

8. **Viola pubescens** Ait. YELLOW VIOLET.

Shaded woodlands; in moist rich sandy soil; scarce.

- [**Viola renifolia** Gray. WHITE VIOLET.

Viola renifolia, in part, of Gray and of B. & B.

Collection of H. D. House, "No. 7255, cool mossy spruce woods, Newcomb, July 15-30, 1920".]

- [**Viola renifolia** Gray var. **brainerdii** Fern. WHITE VIOLET.

Viola renifolia, in part, of Gray and of B. & B.

Collection of H. D. House, "No. 7255, cool mossy spruce woods, Newcomb, July 15-30, 1920".]

9. **Viola rotundifolia** Michx. ROUND-LEAVED VIOLET.

Clearings and roadsides; in wet sandy soil; occasional.

10. **Viola selkirkii** Pursh. GREAT-SPURRED VIOLET.

Ackerman clearing; in moist sandy soil; scarce.

11. **Viola septentrionalis** Greene. NORTHERN BLUE VIOLET.

Roadsides, woodlands, and clearings; in moist sandy or mucky soil; common.

12. **Viola tricolor** L. var. **hortensis** DC. Cultivated. PANSY.

Cemetery; in moist sandy soil; not spreading.

61. BEGONIACEAE (Begonia Family)

Begonia L.

1. **Begonia semperflorens** Link & Otto. Cultivated. BEGONIA.

Cemetery; in moist sandy soil; apparently not persistent over the winter.

29. MYRTIFLORAE

[THYMELAEACEAE (Mezereum Family)]

[Dirca L.]

- [**Dirca palustris** L. LEATHERWOOD.

Collection of H. D. House, "No. 9406, woods, Newcomb, June 8, 1923".]

62. OENOTHERACEAE (Evening Primrose Family)

Circaea (Tourn.) L.

1. **Circaea alpina** L. ENCHANTER'S NIGHTSHADE.

Shaded springs and low depressions; in wet mucky soil; common.

Epilobium L.

1. **Epilobium angustifolium** L. FIREWEED. WILLOW HERB.

Chamaenerion angustifolium of B. & B.

Roadsides, recently disturbed areas, and lake shores; in dry or moist sandy soil; occasional.

2. **Epilobium densum** Raf. LINEAR-LEAVED WILLOW HERB.

Epilobium lineare of House and of B. & B.

Swamps, marshes, and meadows; in wet mucky soil; scarce.

3. **Epilobium glandulosum** Lehm. var. **adenocaulon** (Haussk.) Fern. WILLOW HERB.

Epilobium adenocaulon of Gray and of B. & B.

Abandoned camps, creek banks, and clearings; in moist rich sandy soil; occasional.

[**Ludwigia** L.]

- [**Ludwigia palustris** (L.) Ell. var. **americana** (DC.) Fern.
(See *Rhodora* 37: 176. 1935.) WATER PURSLANE.]

Isnardia palustris of B. & B.

Collection of H. D. House, "No. 10587, shore of Lake Harris, August 17, 1924".]

Oenothera L.

1. **Oenothera biennis** L. EVENING PRIMROSE.

Roadsides and recently disturbed areas; in dry sandy soil; scarce.

2. **Oenothera perennis** L. SUNDROPS.

Kneiffia perennis of House.

Kneiffia pumila of B. & B.

Oenothera pumila of Gray.

Abandoned camps, clearings, and roadsides; in well-drained sandy soil; common.

[**Oenothera parviflora** L.]

Oenothera muricata of Gray, of House, and of B. & B.

Collection of H. D. House, "No. 7235, Newcomb, July 15-30, 1920".]

63. HALORRHAGACEAE (Water Milfoil Family)

Myriophyllum (Vaill.) L.

1. **Myriophyllum farwellii** Morong. WATER MILFOIL.
Aquatic; in 1-2 m. of water in lakes and slowly moving streams;
scarce.
2. **Myriophyllum tenellum** Bigel. SLENDER WATER MILFOIL.
Borders of lakes and ponds; in wet sand; scarce.

30. UMBELLIFLORAE

64. ARALIACEAE (Ginseng Family)

Aralia (Tourn.) L.

1. **Aralia hispida** Vent. BRISTLY SARSAPARILLA.
Exposed ledges and mountain tops; in dry sandy or organic soil;
rare.
2. **Aralia nudicaulis** L. WILD SARSAPARILLA.
Wooded ridges and slopes, often capping boulders; in moist rich
sandy soil; occasional.
3. **Aralia racemosa** L. SPIKENARD.
Creek bank along the outlet of Lodo Pond; in moist rich sandy
soil; rare.

[**Panax** L.]

- [**Panax trifolium** L. DWARF GINSENG. GROUNDNUT.
Collection of H. D. House, "No. 14784a, woods south of Woodruff
Pond, July 9, 1927".]

65. UMBELLIFERAE (Parsley Family)

Angelica L.

1. **Angelica atropurpurea** L. ANGELICA.
Roadsides and creek banks; in wet mucky soil; scarce.

Carum L.

1. **Carum carvi** L. CARAWAY.
Roadsides and clearings; in well-drained sandy soil; common.

Cicuta L.

1. **Cicuta bulbifera** L. BULB-BEARING WATER HEMLOCK.
Swamps and margins of bogs; in wet mucky soil; rare.

Hydrocotyle (Tourn.) L.

1. **Hydrocotyle americana** L. WATER PENNYWORT.

Collection of H. D. House, "No. 26843, marsh at south end of Wolf Pond, July 24, 1939".

Osmorhiza Raf.

1. **Osmorhiza claytoni** (Michx.) C. B. Clarke. HAIRY SWEET CICELY.

Washingtonia claytoni of House and of B. & B.

Shaded roadsides, ridges, and slopes; in well-drained sandy soil; occasional.

Pastinaca L.

1. **Pastinaca sativa** L. WILD PARSNIP.

Roadsides and clearings; in well-drained sandy soil; rare.

Sanicula (Tourn.) L.

1. **Sanicula marilandica** L. SANICLE.

Roadsides and clearings; in well-drained sandy soil; rare.

Thaspium Nutt.

1. **Thaspium barbinode** (Michx.) Nutt. MEADOW PARSNIP.

Roadsides and clearings near the state highway; in well-drained sandy soil; scarce.

[Zizia Koch]

- [Zizia aurea (L.) Koch.** MEADOW PARSNIP.

Collection of H. D. House, "No. 9396, shore of Lake Harris, June 28, 1923".]

66. CORNACEAE (Dogwood Family)

Cornus (Tourn.) L.

- [Cornus alternifolia L. f.** ALTERNATE-LEAVED DOGWOOD.

Collection of H. D. House, "No. 10725, woods, Newcomb, September 22, 1924".]

1. **Cornus canadensis** L. DWARF DOGWOOD. BUNCHBERRY.

Chamaepericlymenum canadense of B. & B.

Clearings, wooded slopes and ridges, and low depressions; in dry sandy to wet mucky soil; very common.

2. **Cornus stolonifera** Michx.

RED OSIER.

Lake shores, creek banks and margins of swamps; in wet sandy or mucky soil; common.

31. **ERICALES**67. **PIROLACEAE** (Wintergreen Family)**Chimaphila** Pursh.1. **Chimaphila umbellata** (L.) Bart. var. **cisatlantica** Blake.
PRINCE'S PINE. PIPSISSEWA.

Chimaphila umbellata of Gray, of House, and of B. & B.

Collection of E. L. Stone, "No. 161, rock ledge along Trail End Bay; in organic soil, July 13, 1938; rare". This is the American form of the European species, *Chimaphila umbellata* (see *Rhodora* 19: 241. 1917).

Moneses Salisb.1. **Moneses uniflora** (L.) Gray. ONE-FLOWERED SHINLEAF.

Collection of E. L. Stone, "No. 167, roadside, one-fourth mile east of the ranger station; in well-drained sandy soil; rare".

Monotropa L.1. **Monotropa uniflora** L. INDIAN PIPE.

Saprophyte on dry or moist humus; in shaded woodlands; occasional.

Pirola (Tourn.) L.**Pirola asarifolia** Michx. LIVERLEAF WINTERGREEN.

Collection of H. D. House, "No. 10946, mossy shaded spruce-tamarack swamp, Newcomb, July 1, 1925; rare".

1. **Pirola elliptica** Nutt. SHINLEAF.

Shaded areas in old fields near the state highway; in rich moist organic soil; scarce.

2. **Pirola rotundifolia** L. var. **americana** (Sweet) Fern. SHINLEAF.

Pyrola americana of Gray, of House, and of B. & B.

Collection of H. D. House, "No. 26616, wooded slope south of the cemetery, July 5, 1939"; rare.

3. *Pirola secunda* L.

SECOND SHINLEAF.

Shaded areas in old fields near the state highway; in rich moist organic soil; scarce.

68. ERICACEAE (Heath Family)

Andromeda L.1. *Andromeda glaucophylla* Link.

BOG ROSEMARY.

Andromeda polifolia of B. & B.

Bogs and lake shores; in wet sphagnum or mucky soil; common.

Chamaedaphne Moench.1. *Chamaedaphne calyculata* (L.) Moench.

LEATHER LEAF.

Bogs and lake shores; in wet sphagnum or mucky soil; common.

Chiogenes Salisb.1. *Chiogenes hispidula* (L.) T. & G.

CREEPING SNOWBERRY.

Shaded mossy woods and bogs; in moist humus or sphagnum; common.

Epigaea L.1. *Epigaea repens* L.

TRAILING ARBUTUS. MAYFLOWER.

Shaded woodlands; in moist humus on sandy or rocky soil; rare.

Gaultheria (Kalm) L.1. *Gaultheria procumbens* L.

WINTERGREEN.

Shaded woodlands; in moist humus on sandy soil; occasional.

Gaylussacia HBK.1. *Gaylussacia baccata* (Wang.) K. Koch.

BLACK HUCKLEBERRY.

Lake shores; in moist rich sandy or rocky soil; occasional.

Kalmia L.1. *Kalmia angustifolia* L.

SHEEP LAUREL.

Bogs, lake shores, and creek banks; in moist rich sandy or mucky soil; occasional.

2. *Kalmia polifolia* Wang.

BOG LAUREL.

Bogs and lake shores; in wet sphagnum; occasional.



Fig. 70. American white hellebore (*Veratrum viride*). Photo by P. M. Silloway.



Fig. 71. Blueberry (*Vaccinium canadense*). Photo by P. M. Silloway.



Fig. 72. Typical view of The Fallows. Photo by C. E. Johnson.



Fig. 73. Beaver meadow at outlet of Wolf Lake. Photo by C. E. Johnson.

Ledum L.

1. **Ledum groenlandicum** Oeder. LABRADOR TEA.
Bogs and lake shores; in wet sphagnum or mucky soil; common.

Vaccinium L.

1. **Vaccinium canadense** Kalm. SOUR-TOP. VELVET-LEAF BLUE-BERRY.

Shaded woods, bogs, margins of marshes, lake shores, clearings, and roadsides; in dry sandy to wet mucky soil; very common. Leaves entire, downy on both sides.

2. **Vaccinium macrocarpon** Ait. LARGE CRANBERRY.

Oxycoccus macrocarpus of House and of B. & B.

Bogs; in wet sphagnum; common cranberry of Lodo Pond and Deer Lake; not found elsewhere. Leaves obtuse scarcely revolute; stems prolonged beyond the flowers and fruit.

- 3 **Vaccinium oxycoccus** L. SMALL CRANBERRY.

Oxycoccus oxycoccus of House and of B. & B.

Bogs; in wet sphagnum, common cranberry of the bog south of Wolf Pond; not found elsewhere. Leaves acute, strongly revolute; stems not prolonged beyond the flowers and fruit.

4. **Vaccinium pensylvanicum** Lam. LOW or EARLY BLUEBERRY.

Vaccinium angustifolium of House and of B. & B.

Exposed mountain tops and lake shores; in rich sandy soil; scarce. Leaves serrulate with bristle-pointed teeth, green and glabrous on both sides or slightly pubescent on the veins beneath.

- [**Vaccinium uliginosum** L. BOG BILBERRY.

Exposed top of Santanoni Peak; in organic material between the rocks. Not found on the Forest.]

32. PRIMULALES**69. PRIMULACEAE (Primrose Family)****Lysimachia (Tourn.) L.**

1. **Lysimachia nummularia** L. MONEYWORT. YELLOW MYRTLE.

Clearing near the state highway; in dry sandy soil; rare. Persistent after cultivation.

2. **Lysimachia terrestris** (L.) BSP. YELLOW LOOSESTRIFE.

Bogs, marshes, swamps, and lake margins; in wet sandy or mucky soil; common.

Primula L.

1. **Primula** sp. (probably **Primula veris** L.) Cultivated. PRIM-ROSE.

Cemetery; in dry sandy soil; planted and slightly spreading.

Steironema Raf.

1. **Steironema ciliatum** (L.) Raf. FRINGED LOOSESTRIFE.

Creek banks, and margins of marshes and swamps; in wet mucky soil; scarce.

Trientalis (Rupp.) L.

1. **Trientalis borealis** Raf. STARFLOWER.

Trientalis americana of Gray and of B. & B.

Woodlands and roadsides; in moist rich humus on sandy soil; occasional.

33. **CONTORTAE**

70. **OLEACEAE** (Olive Family)

Fraxinus (Tourn.) L.

1. **Fraxinus americana** L. WHITE ASH.

Old fields and ridges; in moist well-drained sandy soil; occasional. Lateral leaflets short-stalked; body of fruit terete, tapering below.

2. **Fraxinus nigra** Marsh. BLACK ASH.

Lake shores, creek banks, margins of swamps, and low depressions; in wet sandy to mucky soil; occasional. Lateral leaflets nearly sessile; body of fruit flat, of equal breadth at both ends.

Syringa L.

1. **Syringa vulgaris** L. COMMON LILAC.

Clearings near the state highway; in well-drained sandy soil; rare. Persisting after cultivation.

71. **GENTIANACEAE** (Gentian Family)

Gentiana (Tourn.) L.

1. **Gentiana linearis** Froel. NARROW-LEAVED GENTIAN.

Dasystephana linearis of B. & B.

Clearings, lake shores, and meadows; in dry or moist rich sandy soil; occasional.

[**Menyanthes** (Tourn.) L.][**Menyanthes trifoliata** L.]

BUCKBEAN.

Collection of H. D. House, "No. 7185, bog near Newcomb, June 3, 1922".]

Nymphoides (Tourn.) Hill

1. **Nymphoides lacunosum** (Vent.) Fern. FLOATING HEART.

Trachysperma lacunosa of House.

Floating-leaved aquatic; in about 1 m. of water; occasional.

72. APOCYNACEAE (Dogbane Family)

Apocynum (Tourn.) L.

1. **Apocynum androsaemifolium** L. SPREADING DOGBANE.

Clearings, roadsides, and recently disturbed areas near the state highway; in dry sandy soil; occasional.

Vinca L.

1. **Vinca minor** L. Cultivated. PERIWINKLE.

Cemetery; in dry sandy soil; planted and slightly spreading.

73. ASCLEPIADACEAE (Milkweed Family)

Asclepias (Tourn.) L.

1. **Asclepias incarnata** L. SWAMP MILKWEED.

Swamps, lake shores, and springy areas; in wet mucky soil; scarce.

2. **Asclepias syriaca** L. COMMON MILKWEED.

Clearings near the state highway; in dry sandy soil; scarce.

34. TUBIFLORAE

[CONVOLVULACEAE (Morning-glory Family)]

[**Convolvulus** (Tourn.) L.][**Convolvulus spithameus** L.]

LOW BINDWEED.

Collection of H. D. House, "No. 9387, in sandy soil, Tahawas Club, June 27, 1923".]

74. POLEMONIACEAE (Phlox Family)

Phlox L.

1. **Phlox maculata L.** WILD SWEET WILLIAM.
Clearings near the state highway; rare. Escaped from cultivation.
2. **Phlox paniculata L.** Cultivated. GARDEN PHLOX.
Dooryard at the ranger station; in dry sandy soil; planted and not spreading.
3. **Phlox subulata L.** Cultivated. GROUND OR MOSS PINK.
Cemetery; in dry sandy soil; planted and slightly spreading.

[BORRAGINACEAE (Borrage Family)]

[**Symphytum (Tourn.) L.**]

- [**Symphytum officinale L.** COMFREY.
Collection of H. D. House, "No. 11029, roadside near Newcomb, July 13, 1925".]

75. LABIATAE (Mint Family)

Agastache Clayt.

1. **Agastache foeniculum (Pursh) Ktze.**
Agastache anethiodora of House and of B. & B.
Collection of H. D. House, "No. 26706, border of woods east of Newcomb, July 11, 1939".

Galeopsis L.

1. **Galeopsis tetrahit L. var. bifida (Boenn.) L. & C.** HEMP NETTLE.
Galeopsis tetrahit, in part, of Gray and of B. & B.
Clearings, roadsides, and creek banks; in wet mucky or sandy soil; occasional.

Leonurus L.

1. **Leonurus cardiaca L.** MOTHERWORT.
Arbutus camp; in moist sandy soil near one of the buildings; rare.

Lycopus (Tourn.) L.

1. **Lycopus americanus Muhl.** WATER HOREHOUND.
Creek banks, lake shores, margins of swamps, and clearings; in moist sandy or mucky soil; occasional.

2. **Lycopus uniflorus** Michx. BUGLE WEED.
Beaver dams, swamps, and marshes; in mucky soil; occasional.

Mentha (Tourn.) L.

1. **Mentha arvensis** L. var. **canadensis** (L.) Briq. MINT.
Mentha canadensis of House and of B. & B.

Roadsides, clearings, and creek banks; in moist rich sandy soil; common.

Monarda L.

1. **Monarda didyma** L. Cultivated. OSWEGO TEA. BEE BALM.
Cemetery; in dry sandy soil; rare. Persistent but not spreading.
2. **Monarda fistulosa** L. Cultivated. WILD BERGAMOT.
Dooryard of the ranger station; in dry sandy soil; rare. Persistent but not spreading.

Nepeta L.

1. **Nepeta cataria** L. CATNIP.
Clearings; in moist sandy soil; rare.
2. **Nepeta hederacea** (L.) Trev. GROUND IVY. GILL-OVER-THE-GROUND.

Glechoma hederacea of House and of B. & B.

Dooryards and clearings near the state highway; in dry sandy soil; scarce.

Prunella L.

1. **Prunella vulgaris** L. HEAL-ALL. SELF-HEAL.
Roadsides, trails, and clearings; in moist sandy soil; common.

Scutellaria L.

1. **Scutellaria epilobiifolia** Hamil. MARSH SKULLCAP.
Scutellaria galericulata of Gray, of House, and of B. & B.

Lake shores, meadows, creek banks and borders of marshes; in wet sandy or mucky soil; common.

2. **Scutellaria lateriflora** L. MAD-DOG SKULLCAP.
Shaded creek banks and low depressions; in wet rich poorly-drained soil; occasional.

Satureja (Tourn.) L.

1. **Satureja vulgaris** (L.) Fritsch. BASIL.

Clinopodium vulgare of House and of B. & B.

Roadsides, clearings, and recently disturbed areas; in moist sandy soil; common.

[**Stachys** (Tourn.) L.]

- [**Stachys palustris** L. var. **homotricha** Fern. WOUNDWORT.

Collection of H. D. House, "No. 8518, stony pasture along the Hudson River near Newcomb, August 8, 1921".]

76. SOLANACEAE (Nightshade Family)

Petunia Juss.

1. **Petunia axillaris** BSP. Cultivated. WHITE PETUNIA.
Cemetery; in dry sandy soil; slightly spreading.

2. **Petunia hybrida** Vilm. Cultivated. COMMON GARDEN
PETUNIA.

Cemetery; in dry sandy soil; slightly spreading.

Physalis L.

1. **Physalis alkekengi** L. Cultivated. WINTER CHERRY.
CHINESE LANTERN-PLANT.

Yard at the Arbutus Camp; in moist sandy soil; not spreading.

- [**Physalis heterophylla** Nees. GROUND CHERRY.

Collection of H. D. House, "No. 15368, barnyard, near Newcomb, August 12, 1927".]

Solanum (Tourn.) L.

1. **Solanum dulcamara** L. BLUE NIGHTSHADE.

Abandoned cellar near the state highway; in moist sandy soil; rare.

77. SCROPHULARIACEAE (Figwort Family)

Chelone (Tourn.) L.

1. **Chelone glabra** L. TURTLEHEAD.

Shaded creek banks and low depressions; in wet mucky soil; occasional.

Ilysanthes Raf.

1. **Ilysanthes dubia** (L.) Barnh. FALSE PIMPERNEL.

Shore of Catlin Lake; in wet sand; scarce.

Linaria (Tourn.) Mill.

1. **Linaria vulgaris** Hill. BUTTER-AND-EGGS. YELLOW TOAD-FLAX.

Linaria linaria of House and of B. & B.

Clearings near the state highway; in well-drained sandy soil; rare.

Mimulus L.

1. **Mimulus ringens** L. MONKEY FLOWER.

Marshes, swamps, and borders of lakes; in wet mucky soil; occasional.

Scrophularia (Tourn.) L.

1. **Scrophularia lanceolata** Pursh. FIGWORT.

Scrophularia teporella of Gray and of B. & B.

The Fallows; in moist rich sandy soil; rare.

Verbascum (Tourn.) L.

1. **Verbascum thapsus** L. COMMON MULLEIN.

Roadsides and clearings; in dry to moist sandy soil; occasional.

Veronica (Tourn.) L.

[**Veronica americana** Schw. AMERICAN BROOKLIME.

Collection of H. D. House, "No. 8089, marsh near Newcomb, June 11, 1921".]

1. **Veronica officinalis** L. COMMON SPEEDWELL.

Clearings, roadsides, mountain tops, trails and woodlands; in moist rich sandy soil; common.

2. **Veronica scutellata** L. MARSH SPEEDWELL.

Creek banks, swamps, beaver dams, and lake shores; in wet mucky soil; common.

3. **Veronica serpyllifolia** L. THYME-LEAVED SPEEDWELL.

Clearings near the state highway; in moist sandy soil; rare.

78. OROBANCHACEAE (Broom Rape Family)

Epifagus Nutt.

1. **Epifagus virginiana** (L.) Bart. BEECHDROPS.

Leptamnium virginianum of House and of B. & B.

Beech woods; in moist sandy soil; occasional. Parasite on the roots of beech.

Orobanche (Tourn.) L.1. **Orobanche uniflora** L.

CANCER-ROOT.

Aphyllon uniflorum of House.*Thalesia uniflora* of B. & B.

Bracken areas near the state highway; in moist sandy soil; rare.
Parasitic on the roots of various herbs, especially ferns.

79. LENTIBULARIACEAE (Bladderwort Family)

Utricularia L.1. **Utricularia cornuta** Michx.

HORNED BLADDERWORT.

Stomosis cornuta of B. & B.

Open areas in sphagnum bogs and lake shores; in wet mucky to sandy soil; common.

2. **Utricularia gibba** L.

HUMPED BLADDERWORT.

Free-floating aquatic, in Deer Pond; rare.

3. **Utricularia intermedia** Hayne.

FLAT-LEAVED BLADDERWORT.

Mucky bottom of Deer Pond; in shallow water; rare.

4. **Utricularia purpurea** Walt.

PURPLE BLADDERWORT.

Utricularia purpurea of B. & B.

Free-floating or rooted aquatic of lakes and slowly moving streams; in 0.5-2 m. of water; common.

5. **Utricularia resupinata** B. D. Greene. RECLINED BLADDERWORT.*Lecticula resupinata* of B. & B.

North shore of Catlin Lake, rooted in clay; rare.

6. **Utricularia vulgaris** L. var. **americana** Gray. GREAT BLADDERWORT.*Utricularia macrorhiza* of House and of B. & B.

Free-floating in lakes, stagnant ponds, and slowly moving streams; occasional.

35. PLANTAGINALES

80. PLANTAGINACEAE (Plantain Family)

Plantago (Tourn.) L.1. **Plantago lanceolata** L.

RIB GRASS. ENGLISH PLANTAIN.

Roadsides, clearings, dooryards, and recently disturbed areas; in dry sandy soil; common.

2. **Plantago major** L. PLANTAIN.

Roadsides, dooryards, and recently disturbed areas; in dry sandy soil; occasional.

36. RUBIALES

81. RUBIACEAE (Madder Family)

Cephalanthus L.

1. **Cephalanthus occidentalis** L. BUTTONBUSH.

Shores of Rich Lake; in wet mucky soil; rare.

Galium L.

1. **Galium asprellum** Michx. ROUGH BEDSTRAW.

Roadsides and clearings; in wet rich sandy soil; scarce.

2. **Galium boreale** L. NORTHERN BEDSTRAW.

Clearings and roadsides; in moist sandy soil; scarce.

3. **Galium claytoni** Michx. BEDSTRAW.

Borders of bogs, lakes, and swamps; in wet mucky soil; occasional. Pedicels straight, glabrous; flowers mostly in terminal clusters of 2's and 3's.

4. **Galium palustre** L. MARSH BEDSTRAW.

Roadsides and clearings; in moist sandy soil; occasional.

5. **Galium trifidum** L. SMALL BEDSTRAW.

Lake shores and margins of swamps and bogs; in wet mucky soil; occasional. Differs but slightly from *Galium claytoni* by having slender, arcuate, scabrous pedicels and flowers usually solitary or when terminal in 3's. *Galium trifidum* and *Galium claytoni* are in most cases specifically distinct; however, specimens are found with one or more of the above characters intergrading.

6. **Galium triflorum** Michx. SWEET-SCENTED BEDSTRAW.

Wooded slopes, roadsides, and clearings; in moist rich sandy soil; common.

Houstonia L.

1. **Houstonia caerulea** L. BLUETS.

Roadsides and clearings; in moist sandy soil; occasional.

Mitchella L.

1. **Mitchella repens L.** PARTRIDGE BERRY.
Wooded uplands; in moist humus on sandy soil; occasional.

82. CAPRIFOLIACEAE (Honeysuckle Family)

Diervilla (Tourn.) Mill.

1. **Diervilla lonicera Mill.** BUSH HONEYSUCKLE.
Diervilla diervilla of House and of B. & B.
Rock slides, mountain tops, clearings, and roadsides; in moist rich or dry sandy soil; occasional.

Linnaea (Gronov.) L.

1. **Linnaea borealis L. var. americana (Forbes) Rehder.** TWIN FLOWER.
Linnaea americana of B. & B.
Lake shores, roadsides, and woodlands; in moist humus to sandy soil.

Lonicera L.

1. **Lonicera canadensis Marsh.** FLY HONEYSUCKLE.
Woodlands; in moist rich sandy soil; common.
2. **Lonicera hirsuta Eaton.** HAIRY HONEYSUCKLE.
Shore of Rich Lake; in organic material on rocks; rare.
3. **Lonicera tatarica L.** TARTARIAN HONEYSUCKLE.
Clearings near the state highway; in moist sandy soil; rare. Persisting after cultivation, but not spreading.

[**Lonicera villosa (Michx.) Roem. & Schultes var. tonsa Fern.**
(See *Rhodora* 27: 9. 1925.) MOUNTAIN FLY HONEYSUCKLE.

Lonicera caerulea, in part, of House and of B. & B.

Collection of H. D. House, "No. 9039. Pruyne Swamp, July 11, 1922".]

Sambucus (Tourn.) L.

1. **Sambucus canadensis L.** COMMON ELDER.
Creek banks and clearings; in moist sandy soil; scarce. Inflorescence corymbose; pith white; fruit dark purple.

2. *Sambucus racemosa* L. RED-BERRIED ELDER.

Wooded slopes and ridges, creek banks, and margins of clearings; in moist sandy soil; occasional. Inflorescence racemose; pith brownish; fruit coral-red.

Viburnum (Tourn.) L.1. *Viburnum alnifolium* Marsh. WITCH HOBBLE. HOBBLE BUSH.

Woodlands, except in old fields, burns, and spruce swamps; in moist rich sandy soil; very common.

2. *Viburnum cassinoides* L. WITHE-ROD. WILD RAISIN.
BLACK HAW.

Clearings, creek banks, lake shores, and swamps; in wet mucky soil; occasional.

3. *Viburnum dentatum* L. ARROW-WOOD.

Swamps, lake shores, and creek banks; in wet mucky soil; occasional.

[*Viburnum lentago* L. NANNYBERRY. SHEEPBERRY.

Collection of H. D. House, "No. 7934, wet soil, Newcomb, June 6, 1921".]

4. *Viburnum opulus* L. Highbush Cranberry. CRANBERRY-TREE.

Clearings near the state highway; in sandy soil; rare. Persisting after cultivation, but not spreading.

4a. *Viburnum opulus* L. var. *americanum* Ait.

Persisting after cultivation in clearings near the state highway. Differs from the species by having nearly glabrous leaves with long-acuminate curved lobes.

37. CAMPANULATAE

83. CAMPANULACEAE (Bluebell Family)

Campanula (Tourn.) L.1. *Campanula aparinoides* Pursh. MARSH BEDSTRAW.

Collection of E. L. Stone, "No. 215, shore of Rich Lake, July 29, 1938". Corolla 5-8 mm. long; capsules 1.2-2 mm. long; and peduncles strongly divergent.

2. *Campanula rapunculoides* L. BELL-FLOWER.

Dooryards and roadsides; in dry sandy soil; rare. Escaped from cultivation.

3. *Campanula rotundifolia* L. HAREBELL.

Along the state highway; in dry sandy soil; rare.

4. *Campanula uliginosa* Rydb. MARSH BELL-FLOWER.

Shore of Rich Lake; in wet mucky or sandy soil; scarce. Differs from *Campanula aparinoides* by having larger more bluish flowers on ascending peduncles; capsules 3.2-5 mm. long.

Lobelia (Plum.) L.1. *Lobelia cardinalis* L. CARDINAL FLOWER.

Shore of Rich Lake; in wet sandy soil; scarce.

2. *Lobelia dortmanna* L. WATER LOBELIA.

Lake shores; in wet sandy soil; common. Usually immersed with only the tops of the flowering spikes above water.

3. *Lobelia inflata* L. INDIAN TOBACCO.

Clearings, roadsides, and margins of lakes and swamps; in dry to moist sandy soil; occasional.

[*Lobelia kalmii* L. BROOK LOBELIA.

Collection of H. D. House, "No. 7227, wet shores of Lake Harris, July 15-30, 1920".]

[*Lobelia spicata* Lam. var. *hirtella* Gray. PALE SPIKED LOBELIA.

Lobelia spicata, in part, of House and of B. & B.

Collection of H. D. House, "No. 9078, field near Newcomb, July 18, 1922".]

84. COMPOSITAE (Composite Family)

Achillea (Vaill.) L.1. *Achillea millefolium* L. YARROW.

Clearings, roadsides, and camp sites; in well-drained sandy soil; common.

[*Ambrosia* (Tourn.) L.][*Ambrosia artemisiifolia* L. RAGWEED.

Ambrosia elatior var. *artemisiifolia* of House.

Ambrosia elatior, in part, of B. & B.

Collection of H. D. House, "No. 11343, dooryard weed, Newcomb, September 6, 1925; rare".]



Fig. 74. Outlet of Deer Pond. *Carex rostrata* in foreground. Photo by C. E. Johnson.



Fig. 75. Rose and alder fringe along Deer Creek at Deer Pond. Photo by C. E. Johnson.

[*Ambrosia psilostachya* DC.

RAGWEED.

Collection of H. D. House, "No. 11403, old meadow near Newcomb, September 15, 1925".]

Anaphalis DC.

1. *Anaphalis margaritacea* (L.) B. & H. PEARLY EVERLASTING.

Clearings, roadsides, and abandoned building sites; in well-drained sandy soil; common.

Antennaria Gaertn.

1. *Antennaria canadensis* Greene. PUSSY'S TOES.

Lake shores, clearings, and roadsides; in dry sandy soil; common.

2. *Antennaria neglecta* Greene. PUSSY'S TOES.

Clearings and burned areas; in well-drained sandy soil; occasional.

3. *Antennaria neodioica* Greene. PUSSY'S TOES.

Clearings; in dry sandy soil; scarce.

[*Antennaria occidentalis* Greene. PUSSY'S TOES.

Collections of H. D. House, "No. 9352, field near Newcomb, June 21, 1923".]

4. *Antennaria plantaginifolia* (L.) Richards. PUSSY'S TOES.

Clearings; in well-drained sandy soil; scarce.

Arctium L.

[*Arctium lappa* L. var. *purpurascens* (LeGrand) Fern. & Wieg.

(See *Rhodora* 12: 45. 1910.) GREAT BURDOCK.

Collection of H. D. House, "No. 15354, dooryard near Newcomb, August 12, 1927".]

1. *Arctium minus* (Hill) Bernh. BURDOCK.

Clearings at the southern end of the Forest; in well-drained sandy soil; occasional.

[*Arctium minus* (Hill) Bernh. var. *corymbosum* Wieg. BURDOCK.

Arctium vulgare of House.

Collection of H. D. House, "No. 10470, roadside, Newcomb, August 9, 1924". Differs from *Arctium minus* by having corymbose heads.]

[**Artemisia** L.][**Artemisia absinthium** L.]

WORMWOOD.

Collection of H. D. House, "No. 11360, near ruins of old dwelling on Hudson River trail one half mile below bridge, Newcomb, September 8, 1925".]

Aster (Tourn.) L.1. **Aster acuminatus** Michx.

MOUNTAIN ASTER.

Rock slides, creek banks and moderately shaded woods; in moist rich sandy soil; occasional.

[**Aster cordifolius** L.]

BLUE WOODS ASTER.

Collection of H. D. House, "No. 10763, roadside near Newcomb, September 23, 1924: rare".]

2. **Aster faxoni** Porter.

FAXON'S ASTER.

Aster polyphyllus of Gray.

North end of Wolf Pond; in moist sandy soil; rare.

3. **Aster lateriflorus** (L.) Britton.

CALICO ASTER.

Clearings and lake shores; in moist sandy soil; occasional.

4. **Aster longifolius** Lam.

LONG-LEAVED ASTER.

Collection of H. D. House, "No. 26953, damp soil along road opposite cemetery west of Newcomb, August 23, 1939".

[**Aster lucidulus** (Gray) Wieg.]

ASTER.

Aster puniceus var. *lucidulus* of Gray and of House.

Aster puniceus, in part, of B. & B.

Collection of H. D. House, "No. 7578, shaded marshy places, Newcomb, September 14, 1920".]

5. **Aster macrophyllus** L.

LARGE-LEAVED ASTER.

Old fields, creek banks, and wooded slopes; in moist rich sandy soil; common.

6. **Aster nemoralis** Ait.

BOG ASTER.

Collection of H. D. House, "No. 26905, marsh at south end of Wolf Pond, August 14, 1939".

[**Aster novi-belgii** L.]

NEW YORK ASTER.

Collection of H. D. House, "No. 8425, in moist places, Newcomb, August 3, 1921".]

7. **Aster paniculatus** Lam.

WHITE FIELD ASTER.

Collection of E. L. Stone, "No. 216, south shore of Rich Lake; in moist sand, July 29, 1938".

[**Aster prenanthoides** Muhl.

CROOKED-STEMMED ASTER.

Collection of H. D. House, "No. 27024, along old road on east side of Lake Sanford, only one plant found, September 6, 1939".]

8. **Aster puniceus** L.

PURPLE-STEMMED ASTER.

Aster puniceus, in part, of B. & B.

Roadsides at the southern end of the Forest; in wet mucky soil; occasional.

Aster puniceus x **laevis**

Beaver dams; in mucky and sandy soil; occasional.

9. **Aster tradescanti** L.

Shore of Rich Lake in moist sandy soil; scarce.

10. **Aster umbellatus** Mill.

FLAT-TOPPED WHITE ASTER.

Doellingeria umbellata of House and of B. & B.

Bracken areas, bogs, creek banks, and clearings; in wet mucky to sandy soil; common.

Bidens L.1. **Bidens cernua** L.

STICK-TIGHT.

Shore of Rich Lake; in wet sand, scarce.

2. **Bidens vulgata** Greene.

BEGGAR'S TICKS.

Old field near the ranger station; in well-drained sandy soil; occasional.

Centaurea L.1. **Centaurea cyanus** L. Cultivated.

BACHELOR'S BUTTON.

Yard of the Arbutus Camp; in moist sandy soil.

[**Centaurea nigra** L. var. **radiata** DC.

KNAPWEED.

Collection of H. D. House, "No. 10733, weed in cultivated field, Newcomb; September 22, 1924".]

Chrysanthemum (Tourn.) L.1. **Chrysanthemum leucanthemum** L. var. **pinnatifidum** Lecoq. & Lamotte. DAISY.

Chrysanthemum leucanthemum, in part, of B. & B.

Clearings, and roadsides; in moist sandy soil; common.

Cichorium (Tourn.) L.

1. **Cichorium intybus** L. CHICORY. BLUE SAILORS.
Clearings near the state highway; in well-drained sandy soil; rare.

Cirsium (Tourn.) Mill.

1. **Cirsium arvense** (L.) Scop. CANADA THISTLE.
Roadsides and clearings; in moist sandy soil; common.
2. **Cirsium lanceolatum** (L.) Hill. BULL THISTLE.
Roadside cut near the ranger station; in moist sandy soil; rare.
3. **Cirsium muticum** Michx. SWAMP THISTLE.
Collection of E. L. Stone, "No. 169, clearing near the ranger station; in well-drained sandy soil, July 14, 1938; occasional".

Erechtites Raf.

1. **Erechtites hieracifolia** (L.) Raf. FIREWEED.
Rock slide on Panther Mountain; in moist organic soil; rare.

Erigeron L.

1. **Erigeron annuus** (L.) Pers. DAISY FLEABANE.
Clearings and recently disturbed areas; in well-drained sandy soil; scarce.
2. **Erigeron canadensis** L. HORSEWEED.
Leptilon canadense of House and of B. & B.
Clearings at the southern end of the Forest; in well-drained sandy soil; common.
3. **Erigeron philadelphicus** L. FLEABANE.
Clearings, roadsides, and burned areas; in sandy soil; occasional.
4. **Erigeron ramosus** (Walt.) BSP. DAISY FLEABANE.
Clearings near the state highway; in sandy soil; occasional.

Eupatorium (Tourn.) L.

1. **Eupatorium maculatum** L. JOE-PYE WEED.
Eupatorium purpureum var. *maculatum* of Gray.
Open creek banks and margins of swamps; in wet mucky soil; common.

2. *Eupatorium perfoliatum* L. BONESET.
Margin of Lodo Pond; in wet mucky soil; scarce.

3. *Eupatorium urticaefolium* Reich. WHITE SNAKEROOT.
Shaded woodlands in moist organic soil; rare.

Gaillardia Foug.

- 1 *Gaillardia pulchella* Foug. Cultivated. SHOWY GAILLARDIA.
Yard of the Arbutus Camp; in moist sandy soil; not spreading.

Gnaphalium L.

- [*Gnaphalium decurrens* Ives. EVERLASTING.
Gnaphalium macounii of House.

Collection of H. D. House, "No. 11359, moist field near Newcomb, September 8, 1925".]

1. *Gnaphalium uliginosum* L. LOW CUDWEED.
Clearing near the ranger station; in gravelly soil; scarce.

Heliopsis Pers.

- 1 *Heliopsis scabra* Dunal. ROUGH OX-EYE.
Clearing near the ranger station in dry sandy soil; scarce.

Hieracium (Tourn.) L.

1. *Hieracium aurantiacum* L. ORANGE HAWKWEED. DEVIL'S
PAINT-BRUSH.
Roadsides, and clearings; in sandy soil, common.
2. *Hieracium canadense* Michx. CANADA HAWKWEED.
Arbutus Camp; in moist sandy soil; rare.
3. *Hieracium floribundum* Wimm. & Grab. HAWKWEED.
Bracken areas, roadsides, and clearings; in sandy soil; common.
4. *Hieracium pratense* Tausch. KING DEVIL.
Roadside near the cemetery; in well-drained sandy soil; scarce.
5. *Hieracium scabrum* Michx. HAWKWEED.
Old field on the north side of Rich Lake; in well-drained sandy soil; rare.

Inula L.

1. **Inula helenium L.** ELECAMPANE.
Clearing near Newcomb; in dry sandy soil; rare.

Lactuca (Tourn.) L.

- [**Lactuca canadensis L.** WILD LETTUCE.

Lactuca canadensis, in part, of B. & B.

Collection of H. D. House, "No. 9084, thickets near Newcomb, July 18, 1922".]

- [**Lactuca canadensis L. var. integrifolia (Bigel.) Gray.**

Lactuca canadensis, in part, of B. & B.

Lactuca canadensis var. *montana* of House.

Lactuca integrifolia of Gray.

Collection of H. D. House, "No. 10696, open woods, Newcomb, September 20, 1924". Differs from the species by having unlobed leaves.]

1. **Lactuca spicata (Lam.) Hitchc.** BLUE LETTUCE.
Along the state highway; in moist sandy soil; occasional.

[Petasites (Tourn.) Mill.]

- [**Petasites palmatus (Ait.) Gray.** SWEET COLTSFOOT.

Collection of H. D. House, "No. 8054, marsh near Newcomb, June 10, 1921".]

Prenanthes (Vaill.) L.

1. **Prenanthes altissima L.** RATTLESNAKE ROOT.
Nabalus altissimus of House and of B. & B.
Woodlands at lower elevations; in moist organic layer; occasional.

Rudbeckia L.

1. **Rudbeckia hirta L.** BLACK-EYED SUSAN. NIGGER-HEAD.
Recently disturbed areas and clearings; in sandy soil; occasional.
2. **Rudbeckia laciniata L.** Cultivated. CONE-FLOWER.
Yard of the ranger station; in moist sandy soil; not spreading.

Senecio (Tourn.) L.

- [**Senecio aureus L.** GOLDEN RAGWORT.

Collection of H. D. House, "No. 7293, marsh near Newcomb, July 15-30, 1920"]

[*Senecio aureus* x *robbinsii*]

[Collection of H. D. House, "No. 8013, marsh near Newcomb, June 8, 1921".]

1. *Senecio robbinsii* Oakes. GOLDEN RAGWORT.

Clearings, burned areas, and roadsides; in well-drained sandy soil; occasional.

Solidago L.[*Solidago altissima* L. GOLDENROD.

Collection of H. D. House, "No. 7534, Newcomb, September 6, 1920".]

1. *Solidago arguta* Ait. CUT-LEAVED GOLDENROD.

Clearings; in well-drained sandy soil; scarce.

2. *Solidago canadensis* L. CANADA GOLDENROD.

Clearings, and roadsides; in well-drained sandy soil; common.

3. *Solidago caesia* L. WOODS GOLDENROD.

Moderately closed wooded slopes; in moist rich sandy soil; occasional.

4. *Solidago graminifolia* (L.) Salisb. FLAT-TOPPED GOLDENROD.

Euthamia graminifolia of B. & B.

Clearings; beaver dams, and margins of swamps, lakes, and bogs; in moist sandy soil; common.

5. *Solidago humilis* Pursh. BOG GOLDENROD.

Solidago uliginosa of Gray and of B. & B.

Bogs; in wet sphagnum, common.

[*Solidago juncea* Ait. EARLY GOLDENROD.

Collection of H. D. House, "No. 7241, moist open hillside, Newcomb, July 15-30, 1920".]

6. *Solidago latifolia* L. ZIGZAG GOLDENROD.

Solidago flexicaulis of House and of B. & B.

Woodlands; in moist rich sandy soil; occasional.

[**Solidago macrophylla** Pursh. LARGE-LEAVED GOLDENROD.

Exposed summit of Santanoni Peak; in organic soil; not found on the Forest.]

7. **Solidago nemoralis** Ait. DWARF GOLDENROD.

Clearings and roadsides; in well-drained sandy soil; occasional.

[**Solidago puberula** Nutt. DOWNY GOLDENROD.

Collection of H. D. House, "No. 18077, sandy field near Tahawas, August 28, 1930".]

[**Solidago randii** (Porter) Britton. RAND'S GOLDENROD.

Collection of H. D. House, "No. 10690, Long Lake, September 19, 1924".]

8. **Solidago rugosa** Mill. HAIRY GOLDENROD.

Beaver dams, clearings, roadsides, and burned areas; in moist sandy to mucky soil; common.

9. **Solidago serotina** Ait. LATE GOLDENROD.

Solidago serotina, in part, of B. & B.

Clearings and roadsides near the southern end of the Forest; in sandy soil; common.

[**Solidago serotina** Ait. var. **gigantea** (Ait.) Gray.

Solidago serotina, in part, of B. & B.

Collection of H. D. House, "No. 8423, dry soil, Newcomb, August 1, 1921".]

[**Solidago squarrosa** Muhl. RAGGED GOLDENROD.

Collection of H. D. House, "No. 7547, dry hillside near Newcomb, September 8, 1920".]

Tagetes L.

1. **Tagetes signata** Bartl. Cultivated. MARIGOLD.

Yard at the Arbutus Camp; in moist sandy soil; persistent, but not spreading.

Tanacetum L.

1. **Tanacetum vulgare** L. TANSY.

Old field near the state highway; in well-drained sandy soil; rare. Persistent after cultivation, but not spreading.

Taraxacum (Haller) Ludwig

1. **Taraxacum officinale** Weber. DANDELION.

Leontodon taraxacum of House and of B. & B.

Burned areas, clearings, roadsides, and recently disturbed areas; in moist sandy soil; common.

Tragopogon (Tourn.) L.

1. **Tragopogon pratensis** L. GOAT'S BEARD.

Clearings and roadsides at the southern end of the Forest; in well-drained sandy soil; scarce.

Zinnia L.

1. **Zinnia elegans** Jacq. Cultivated. ZINNIA.

Yard of the Arbutus Camp; in moist sandy soil; not spreading.

LITERATURE CITED

BALK, ROBERT

1932. Geology of the Newcomb Quadrangle. N. Y. State Mus. Bull. 290. 106 pp.

BLAKE, S. F.

1917. The Varieties of *Chimaphila umbellata*. Rhodora 19: 237-245.
1918. Notes on the Clayton Herbarium. Rhodora 20: 20-28.

BRIQUET, JOHN

1935. International Rules of Botanical Nomenclature. Gustav Fischer, Jena. 151 pp.

BRITTON, NATHANIEL LORD, AND ADDISON BROWN

1913. An Illustrated Flora of the Northern United States, Canada and British Possessions, ed. 2. Charles Scribner's Sons, New York. 3v. 2252 pp.

BROUN, MAURICE

1938. Index to North American Ferns. Published by the compiler, Orleans, Mass. 217 pp.

BUTTERS, F. K., AND E. C. ABBE

1940. American Varieties of *Rorippa islandica*. Rhodora 42: 25-32.

CUSHING, H. P.

1907. Geology of the Long Lake Quadrangle. N. Y. State Mus. Bull. 115. 80 pp.

DIELS, LUDWIG

1936. A. Engler's Syllabus der Pflanzenfamilien, ed. 11. Gebrüder Borntraeger, Berlin. 419 pp.

FENNEMAN, N. M.

1938. Physiography of Eastern United States. McGraw-Hill Book Co., Inc., New York. 714 pp.

FERNALD, M. L.

1914. The Glabrous-leaved Sweet Gale. Rhodora 16: 167.
1917. A New Vitis from New England. Rhodora 19: 144-147.
1921. The Gray Herbarium Expedition to Nova Scotia, 1920. Rhodora 23: 130-152.
1923. The American Variety of *Scheuchzeria palustris*. Rhodora 25: 177-179.
1925. The American Representatives of *Lonicera caerulea*. Rhodora 27: 1-11.
1925a. The Identity of *Eriophorum callitrix*. Rhodora 27: 203-210.
1928. The Eastern American Variety of *Polystichum Braunii*. Rhodora 30: 28-30.
1929. A study of *Thelypteris palustris*. Rhodora 31: 27-36.
1932. The Linear-leaved North American Species of *Potamogeton*, Section *Axillares*. Memoirs of the Amer. Acad. of Arts and Sciences 17: 183 pp.
1936. Plants from the Coastal Plain of Virginia. Rhodora 38: 414-452.

FERNALD, M. L. AND LUDLOW GRISCOM

1935. Three Days of Botanizing in Southeastern Virginia. Rhodora 37: 167-189.

FERNALD, M. L., AND K. M. WIEGAND

1910. A Synopsis of the Species of *Arctium* in North America. Rhodora 12: 43-47.

HEIBERG, S. O.

1937. Nomenclature of Forest Humus Layers. Jour. For. 35: 36-39.

HEIMBURGER, CARL C.

1934. Forest-type Studies in the Adirondack Region. Cornell Univ. Agric. Exp. Sta. Memoir 165. 122 pp.

HERMANN, FREDERICK J.

1938. New or Otherwise Interesting Plants from Indiana. *Rhodora* 40: 77-86.

HITCHCOCK, A. S.

1935. Manual of the Grasses of the United States. U. S. Dept. Agric. Misc. Pub. 200. 1040 pp.

HOUSE, H. D.

1924. Annotated List of the Ferns and Flowering Plants of New York State. N. Y. State Mus. Bull. 254. 759 pp.

JOHNSON, C. E., AND W. A. DENCE

1937. Wildlife of the Archer and Anna Huntington Wildlife Forest Station. *Roosevelt Wildlife Bull.* 6: 557-609.

KELLOGG, C. E.

1936. Development and Significance of the Great Soil Groups of the United States. U. S. Dept. Agric. Misc. Pub. 229. 40 pp.

MACKENZIE, KENNETH KENT

1931. Caricaceae. In North American Flora. N. Y. Botanical Garden 18: 1-168.
1935. Caricaceae. In North American Flora. N. Y. Botanical Garden 18: 169-478.

MILLER, WILLIAM J.

1914. The Geological History of New York State. N. Y. State Mus. Bull. 168. 130 pp.
1917. Geology of the Blue Mountain, New York, Quadrangle. N. Y. State Mus. Bull. 192. 68 pp.

MORDOFF, R. A.

1934. The Climate of New York State. Cornell Univ. Agric. Exp. Sta. Bull. 444a. 99 pp.

RAUNKIAER, C.

1934. The Life Forms of Plants and Statistical Plant Geography. Oxford University Press, London. 632 pp.

ROBINSON, B. L., AND M. L. FERNALD

1908. Gray's New Manual of Botany, ed. 7. American Book Company. 926 pp.

SARGENT, C. S.

1905. Recently Recognized Species of *Crataegus* in Eastern Canada and New England,—VI. *Rhodora* 7: 192-219.

SVENSON, H. K.

1939. Monographic Studies in the Genus *Eleocharis*—V. Brooklyn Botanical Garden Contributions 85. 110 pp.
1939a. *Quercus rubra* once more. *Rhodora* 41: 521-524.

WIEGAND, K. M.

1925. *Oxalis corniculata* and its Relatives in North America. *Rhodora* 27: 113-124, 133-139.

WIEGAND, K. M., AND ARTHUR J. EAMES

1925. The Flora of the Cayuga Lake Basin, New York. Cornell Univ. Agric. Exp. Sta. Memoir 92. 491 pp.

INDEX OF THE LATIN AND VERNACULAR NAMES

A

- Abies, 255
 balsamea, 255
 Acer, 311
 pensylvanicum, 311
 rubrum, 311
 saccharinum, 311
 saccharum, 311
 spicatum, 311
 ACERACEAE, 311
 Achillea, 334
 millefolium, 334
 Acorus, 276
 calamus, 276
 Actaea, 294
 alba, 294
 rubra, 294
 ADDER'S MOUTH, GREEN, 285
 WHITE, 285
 ADDER'S TONGUE FAMILY, 247
 YELLOW, 279
 Adiantum, 248
 pedatum, 248
 Agastache, 326
 anethiodora, 326
 foeniculum, 326
 Agrimonia, 301
 gryposepala, 301
 striata, 301
 AGRIMONY, 301
 Agropyron, 259
 caninum, 259
 pauciflorum, 259
 repens, 259
 subsecundum, 259
 tenerum, 259
 Agrostemma, 292
 githago, 292
 Agrostis, 260
 alba, 260
 alba var. *maritima*, 260
 alba var. *vulgaris*, 260
 borealis, 260
 hiemalis, 260
 maritima, 260
 palustris, 260
 perennans, 260
 tenuis, 260
 tenuis var. *aristata*, 260
 Aira flexuosa, 261
 ALDER, BLACK, 311
 SPECKLED, 288
 ALISMATACEAE, 259
 Alnus, 288
 incana, 288
 Alsine aquatica, 293
 borealis, 293
 graminea, 293
 media, 293
 ALYSSUM, SWEET, 298
 AMARANTH FAMILY, 292
 GREEN, 292
 AMARANTHACEAE, 292
 Amaranthus, 292
 retroflexus, 292
 AMARYLLIDACEAE, 282
 Ambrosia, 334
 artemisiifolia, 334
 elator, 334
 elator var. *artemisiifolia*, 334
 psilostachya, 336
 Amelanchier, 302
 bartramiana, 302
 canadensis, 302
 laevis, 302
 oligocarpa, 302
 ANACARDIACEAE, 310
 Anaphalis, 336
 margaritacea, 336
 Andromeda, 320
 glaucophylla, 320
 polifolia, 320
 Anemone, 294
 virginiana, 294
 ANEMONE, TALL, 294
 Angelica, 317
 atropurpurea, 317
 Angelica, 317
 Angiospermae, 256
 Antennaria, 336
 canadensis, 336
 neglecta, 336
 neodioca, 336
 occidentalis, 336
 plantaginifolia, 336
 Anthoxanthum, 260
 odoratum, 260
 Aphyllon uniflorum, 330
 APOCYNACEAE, 325
 Apocynum, 325
 androsaemifolium, 325
 APPLE, COMMON, 303
 AQUIFOLIACEAE, 311
 Aquilegia, 295
 vulgaris, 295
 Arabis, 297
 glabra, 297
 ARACEAE, 276
 Aralia, 317
 hispida, 317
 nudicaulis, 317
 racemosa, 317
 ARALIACEAE, 317
 ARBOR VITAE, 256
 ARBUTUS, TRAILING, 320
 Arceuthobium, 290
 pusillum, 290

- Arctium, 336
 lappa var. purpurascens, 336
 minus, 336
 minus var. corymbosum, 336
 vulgare, 336
 Arethusa, 282
 bulbosa, 282
 ARETHUSA, 282
 Arisaema, 277
 stewardsonii, 277
 triphyllum, 277
 triphyllum var. stewardsonii, 277
 Aronia, 302
 melanocarpa, 302
 ARROWHEAD, BROAD-LEAVED, 259
 ARROW GRASS FAMILY, 258
 ARROW-WOOD, 333
 Artemisia, 337
 absinthium, 337
 ARUM FAMILY, 276
 WATER, 277
 ASCLEPIADACEAE, 325
 Asclepias, 325
 incarnata, 325
 syriaca, 325
 ASH, BLACK, 324
 MOUNTAIN, 307
 NORTHERN MOUNTAIN, 307
 WHITE, 324
 Asparagus, 279
 officinalis, 279
 ASPARAGUS, GARDEN, 279
 ASPEN, LARGE-TOOTHED, 286
 QUAKING, 286
 TREMBLING, 286
Aspidium bootii, 252
 cristatum, 252
 cristatum var. *clintoniana*, 252
 fragrans, 252
 goldianum, 252
 marginale, 253
 notchboracense, 253
 spinulosum, 253
 spinulosum var. *dilatatum* forma
 anadenium, 252
 spinulosum var. *intermedium*, 253
 thelypteris, 253
Asplenium acrostichoides, 251
 angustifolium, 251
 fili-femina, 248
 pyncocarpum, 251
 Aster, 337
 acuminatus, 337
 cordifolius, 337
 faxonii, 337
 lateriflorus, 337
 longifolius, 337
 lucidulus, 337
 macrophyllus, 337
 memoralis, 337
 novi-belgii, 337
 paniculatus, 338
 polyphyllus, 337
 Aster—Continued
 prenanthoides, 338
 punicus, 337, 338
 punicus, 338
 punicus x *laevis*, 338
 punicus var. *lucidulus*, 337
 tridescanti, 338
 umbellatus, 338
 ASTER, 337
 BOG, 337
 BLUE WOODS, 337
 CALICO, 337
 CROOKED-STEMMED, 338
 FAXON'S, 337
 FLAT-TOPPED WHITE, 338
 LARGE-LEAVED, 337
 LONG-LEAVED, 337
 MOUNTAIN, 337
 NEW YORK, 337
 PURPLE-STEMMED, 338
 WHITE FIELD, 338
 Athyrium, 248
 acrostichoides, 251
 angustifolium, 251
 angustum, 248
 angustum var. *rubellum*, 248
 fili-femina, 248
 pyncocarpum, 251
 thelypteroides, 251
Avena torreyi, 266
 AVENS, PURPLE, 303
 WATER, 303
 YELLOW, 303
 AWLWORT, 299

B

- BACHELOR'S BUTTON, 338
 BALSAM FIR, 255
 BALSAMINACEAE, 312
 BANEERRY, RED, 294
 WHITE, 294
 Barbarea, 297
 barbarca, 297
 verna, 297
 vulgaris, 297
 BARBERRY FAMILY, 296
 BARLEY, 263
 BASIL, 328
 BASSWOOD, 313
 BAY BUSH, 287
 BEAKED HAZELNUT, 288
 BEDSTRAW, 331
 MARSH, 331, 333
 NORTHERN, 331
 ROUGH, 331
 SMALL, 331
 SWEET-SCENTED, 331
 BEE BALM, 327
 BEECH, 289
 FAMILY, 289
 BEECHDROPS, 329
 BEGGAR'S TICKS, 338
 Begonia, 315
 semperflorens, 315

- BEGONIA, 315
 FAMILY, 315
 BEGONIACEAE, 315
 BELL-FLOWER, 334
 MARSH, 334
 BELLWORT, SESSILE-LEAVED, 281
 BENT, AUTUMN, 260
 COLONIAL, 260
 BERBERIDACEAE, 296
 BERGAMOT, WILD, 327
 Betula, 288
 alba var. *minor*, 288
 alba var. *papyrifera*, 288
 lutea, 288
 papyrifera, 288
 papyrifera var. *minor*, 288
 BETULACEAE, 288
Bicuculla canadensis, 297
cucullaria, 297
 Bidens, 338
 cernua, 338
 vulgata, 338
 BILBERRY, BOG, 323
 BINDWEED, BLACK, 291
 FRINGED BLACK, 290
 LOW, 325
 BIRCH, CANOE, 288
 FAMILY, 288
 PAPER, 288
 WHITE, 288
 YELLOW, 288
 BIRTHROOT, 281
 BISHOP'S CAP, NAKED, 300
 BITTERSWEET, CLIMBING, 311
 BLACKBERRY, 306, 307
 COMMON, 306
 SWAMP, 307
 BLACK-EYED SUSAN, 341
 BLACK HAW, 333
 BLADDERWORT FAMILY, 330
 FLAT-LEAVED, 330
 GREAT, 330
 HORNED, 330
 HUMPED, 330
 PURPLE, 330
 RECLINED, 330
 BLEEDING HEART, 297
Blephariglotis blephariglotis, 283
grandiflora, 284
psycodes, 284
 BLUEBELL FAMILY, 333
 BLUEBERRY, EARLY, 323
 LOW, 323
 VELVET-LEAF, 323
 BLUEJOINT, 261
 BLUE SAILORS, 339
 BLUETS, 331
 BOG BILBERRY, 323
 BOG ROSEMARY, 320
 BONESET, 340
 BORRAGE FAMILY, 326
 BORRAGINACEAE, 326
 Botrychium, 247
dissectum, 247
dissectum var. *obliquum*, 247
matricariaefolium, 247
multifidum var. *silaifolium*, 247
neglectum, 247
obliquum, 247
obliquum var. *dissectum*, 247
ramosum, 247
silaifolium, 247
simplex, 247
ternatum var. *intermedium*, 247
virginianum, 247
 Brachyelytrum, 260
 erectum, 260
 BRACKEN, EASTERN, 254
 BRAKE, COMMON, 254
 Brasenia, 293
schreberi, 293
 Brassica, 298
 arvensis, 298
campestris, 298
 rapa, 298
 BRISTLEGRASS, YELLOW, 266
 BROME, FRINGED, 261
Bromelia striata, 266
 Bromus, 261
altissimus, 261
ciliatus, 261
latiglumis, 261
purgans, 261
 BROOKLIME, AMERICAN, 329
 BROOM RAPE FAMILY, 329
 BUCKBEAN, 325
 BUCKWHEAT, 290
 FAMILY, 290
 BUCKTHORN FAMILY, 312
 SWAMP, 312
 BUGLE WEED, 327
 BULRUSH, 276
 DARK GREEN, 275
 PECK'S, 276
 BUNCHBERRY, 318
 BURDOCK, 336
 Great, 336
 BURNET, CANADIAN, 307
 BUR-REED FAMILY, 257
 FLOATING, 257
 NARROW-LEAVED, 257
 NUTTALL'S, 257
 SMALL, 368
 STEMLESS, 257
Bursa bursa-pastoris, 298
 BUTTER-AND-EGGS, 329
 BUTTERCUP, BRISTLY, 296
 CREEPING, 296
 HOOKED, 296
 SMALL-FLOWERED, 295
 SWAMP, 296
 TALL FIELD, 296
 BUTTERNUT, 288
 BUTTONBUSH, 331

C

Calamagrostis, 261
 canadensis, 261
 pickeringii, 261
 Calla, 277
 palustris, 277
 CALLA, WILD, 277
 CALLITRICHACEAE, 310
 Callitriche, 310
 palustris, 310
 Calopogon, 282
 pulchellus, 282
 CALOPOGON, 282
 Caltha, 295
 palustris, 295
 Campanula, 333
 aparinoides, 333
 rapunculoides, 334
 rotundifolia, 334
 uliginosa, 334
 CAMPANULACEAE, 333
 Campanulatae, 333
Campe barbarea, 297
 verna, 297
 CAMPION, BLADDER, 293
 WHITE, 292
 CANCER-ROOT, 330
Capnoides sempervirens, 297
Capnorchis canadensis, 297
 cucullaria, 297
 CAPRIFOLIACEAE, 332
 Capsella, 298
 bursa-pastoris, 298
 CARAWAY, 317
 Cardamine, 298
 pennsylvanica, 298
 CARDINAL FLOWER, 334
 Carex, 266
 abacta, 271
 aenea, 266
 albicans, 271
 anceps, 270
 angustior, 267
 annectens, 267
 aquatilis, 272
 arctata, 267
 aurea, 267
 baileyi, 267
 bebbii, 267
 brunnescens, 267
 buxbaumii, 267
 canescens, 267
 canescens var. *sublutiacea*, 267
 castanea, 267
 castanea var. *kneiskernii*, 268
 cephalantha, 268
 chlorophila, 268
 communis, 268
 comosa, 268
 convoluta, 268
 crawfordii, 268
 crinita var. *gynandra*, 269

Carex—Continued
 cryptolepis, 268
 debilis var. *interjecta*, 269
 debilis var. *rudgei*, 269
 deflexa, 268
 deweyana, 269
 diandra, 269
 disperma, 269
 exilis, 269
 filiformis, 270
 flava, 269
 flava var. *rectirostra*, 268
 flexuosa, 269
 folliculata, 269
 gracillima, 269
 gynandra, 269
 haydenii, 269
 houghtonii, 269
 hystricina, 270
 interior, 270
 intumescens, 270
 irregularis, 268
 kneiskernii, 268
 lacustris, 270
 lasiocarpa, 270
 laxiflora, 270
 laxiflora var. *leptonervia*, 270
 laxiflora var. *patulifolia*, 270
 laxiflora var. *virians*, 270
 leersii, 267, 268
 lenticularis, 270
 lepidocarpa, 268
 leptalea, 270
 leptonervia, 270
 limosa, 270
 lurida, 271
 lurida var. *gracilis*, 267
 michauxiana, 271
 monile, 273
 muricata, 268
 novae-angliae, 271
 ocderi, 268, 273
 ocderi var. *pumila*, 268, 273
 oligosperma, 271
 pallascens, 271
 pauciflora, 271
 paupercula, 271
 peckii, 271
 pedunculata, 271
 plantaginea, 271
 polygama, 267
 projecta, 271
 pseudo-cyperus, 271
 retrorsa, 272
 riparia, 270
 riparia var. *lacustris*, 270
 roscia, 268
 rostrata, 272
 rugosperma, 272
 scabrata, 272
 scirpoides, 270
 scoparia, 272
 setacea var. *ambigua*, 267

Carex—Continued

- stellulata* var. *angustata*, 267
- stellulata* var. *cephalantha*, 268
- stipata*, 272
- straminea*, 272
- straminea* var. *echinodes*, 272
- stricta*, 272
- stricta* var. *angustata*, 272
- stricta* var. *curtissima*, 272
- stricta* var. *decora*, 269
- strictior*, 272
- substricta*, 272
- tenella*, 269
- tenera*, 272
- tenera* var. *echinodes*, 272
- tenuiflora*, 273
- tribuloides* var. *redueta*, 271
- trisperma*, 273
- umbellata*, 272
- vesicaria*, 273
- vesicaria* var. *distenta*, 273
- vesicaria* var. *jejuna*, 273
- vesicaria* var. *monile*, 273
- viridula*, 273
- vulpinoidea*, 273
- CARNATION, 292
- CARRION FLOWER, 281
- Carum, 317
 - carvi*, 317
- CARYOPHYLLACEAE, 292
- CASHEW FAMILY, 310
- Castalia odorata*, 293
- CATCHFLY, NIGHT-FLOWERING, 368
- Cathea pulchella*, 282
- CATNIP, 327
- CATTAIL, BROAD-LEAVED, 256
 - FAMILY, 256
- Caulophyllum, 296
- thalictroides*, 296
- CEDAR, WHITE, 256
- CELASTRACEAE, 311
- Celastrus, 311
 - scandens*, 311
- Centaurea, 338
 - cyanus*, 338
 - nigra* var. *radiata*, 338
- Centrospermae, 291
- Cephalanthus, 331
 - occidentalis*, 331
- Cerastium, 292
 - vulgatum*, 292
- Chaetochloa glauca*, 266
 - lutescens*, 266
 - viridis*, 266
- Chamaedaphne, 320
 - calyculata*, 320
- Chamaenerion angustifolium*, 316
- Chamaeperilymenum canadense*, 318
- CHARLOCK, 298
 - JOINTED, 299
- Cheirinia cheiranthoides*, 298
- Chelone, 328
 - glabra*, 328

CHENOPODIACEAE, 291

- Chenopodium, 291
 - album*, 291
- CHERRY, BLACK, 305
 - CHOKE, 305
 - FIRE, 304
 - GROUND, 328
 - PIN, 304
 - WINTER, 328
- CHICKWEED, COMMON, 293
 - MOUSE-EAR, 292
 - WATER, 293
- CHICORY, 339
- Chimaphila, 319
 - umbellata*, 319
 - umbellata* var. *cisatlantica*, 319
- CHINESE LANTERN-PLANT, 328
- Chiogenes, 320
 - hispidula*, 320
- CHOKEBERRY, BLACK, 302
- CHRISTMAS-GREEN, TRAILING, 246
- Chrysanthemum, 338
 - leucanthemum*, 338
 - leucanthemum* var. *pinnatifidum*, 338
- Chrysosplenium, 300
 - americanum*, 300
- CICELY, HAIRY SWEET, 318
- Cichorium, 339
 - intybus*, 339
- Cicuta, 317
 - bulbifera*, 317
- Cinna, 261
 - latifolia*, 261
- CINQUEFOIL, MARSH, 304
 - ROUGH, 304
 - SHRUBBY, 304
 - SILVERY, 303
 - THREE-TOOTHED, 304
 - YELLOW, 304
- Circaea, 316
 - alpina*, 316
- Cirsium, 339
 - arvense*, 339
 - lanceolatum*, 339
 - muticum*, 339
- Cladium mariscoides*, 275
- Claytonia, 292
 - caroliniana*, 292
- Clematis, 295
 - virginiana*, 295
- CLEMATIS, WHITE, 295
- Clinopodium vulgare*, 328
- Clintonia, 279
 - borealis*, 279
- CLINTONIA, YELLOW, 279
- CLOVER, ALSIKE, 308
 - BLACK, 308
 - CREEPING WHITE, 308
 - HOP, 308
 - RED, 308
 - WHITE SWEET, 308
 - YELLOW, 308
 - YELLOW SWEET, 308

- CLUB-MOSS, BOG, 246
 BRISTLY, 245
 COMMON, 245
 FAMILY, 245
 MARSH, 246
 SHINING, 246
 STIFF, 245
 COCKLE, CORN, 292
Coeloglossum bracteatum, 283
 COHOSH, BLUE, 296
 RED, 294
 WHITE, 294
 COLTSFOOT, SWEET, 341
 COLUMBINE, GARDEN, 295
Comarum palustre, 304
 COMFREY, 326
 COMPOSITAE, 334
 COMPOSITE FAMILY, 334
 CONE-FLOWER, 341
 CONIFER FAMILY, 255
 Coniferales, 255
 Contortae, 324
 CONVOLVULACEAE, 325
 Convolvulus, 325
 spithameus, 325
 Coptis, 295
 trifolia, 295
 CORALROOT, LARGE, 282
 SMALL, 282
 Corallorrhiza, 282
 corallorrhiza, 283
 maculata, 282
 trifida, 283
 CORN, 369
 CORNACEAE, 318
 CORN COCKLE, 292
 Cornus, 318
 alternifolia, 318
 canadensis, 318
 stolonifera, 319
 COW-HERB, 293
 COWSLIP, 295
 Corydalis, 297
 sempervirens, 297
 CORYDALIS, PALE, 297
 Corylus, 288
 cornuta, 288
 rostrata, 288
 CRANBERRY, Highbush, 333
 LARGE, 323
 SMALL, 323
 TREE, 333
 CRASSULACEAE, 300
 Crataegus, 302
 albicans, 302
 brainerdii, 302
 brainerdii var. *egglestonii*, 302
 coccinea, 302
 levis, 302
 macrocarpa, 302
 macrocarpa var. *matura*, 302
 pedicellata var. *albicans*, 302
 sp., 302
 CRESS, EARLY WINTER, 297
 BITTER, 298
 MARSH WATER, 299
 WINTER, 297
 YELLOW WATER, 299
 CRINKLEROOT, 298
 CROWBERRY, BLACK, 310
 FAMILY, 310
 CROWFOOT FAMILY, 294
 CRUCIFERAE, 297
 CUCUMBER-ROOT, INDIAN, 280
 CUDWEED, LOW, 340
 CURRANT, FETID, 301
 SKUNK, 301
 SWAMP-BLACK, 301
 WILD RED, 301
 CYPERACEAE, 266
 Cyperus, 273
 dentatus, 273
 rivularis, 273
 CYPERUS, SHINING, 273
 TOOTHED, 273
 Cypridium, 283
 acaule, 283
 hirsutum, 283
 reginae, 283
 Cystopteris, 251
 bulbifera, 251
 fragilis, 251
 fragilis var. *mackayii*, 251

D

- Dactylis, 261
 glomerata, 261
 DAFFODIL, 282
 DAISY, 338
 Dalibarda, 303
 repens, 303
 DANDELION, 344
 Danthonia, 261
 spicata, 261
Dasiphora fruticosa, 304
Dasystephana linearis, 324
 Delphinium, 295
 elatum, 295
 DELPHINIUM, CULTIVATED, 295
Dennstaedtia, 251
 punctilobula, 251
 Dentaria, 298
 diphylla, 298
 Deschampsia, 261
 flexuosa, 261
 DEVIL'S PAINT BRUSH, 340
 Dianthus, 292
 barbatus, 292
 caryophyllus, 292
 Dicentra, 297
 canadensis, 297
 cucullaria, 297
 spectabilis, 297
Dicksonia punctilobula, 251
 Dicotyledoneae, 286

Diervilla, 332
 diervilla, 332
 lonicera, 332
Dilepyrum erectum, 260
 Diplazium, 251
 pyncocarpon, 251
 thelypteroides, 251
 Dirca, 315
 palustris, 315
 Dock, BITTER, 291
 BROAD-LEAVED, 291
 CURLED, 291
 YELLOW, 291
Doellingeria umbellata, 338
 DOGBANE FAMILY, 325
 SPREADING, 325
 DOGBERRY, 279
 DOGWOOD, ALTERNATE-LEAVED, 318
 DWARF, 318
 FAMILY, 318
 DRAGON'S-MOUTH, 282
 Drosera, 300
 intermedia, 300
 longifolia, 300
 rotundifolia, 300
 DROSERACEAE, 300
 Dryopteris, 252
 boottii, 252
 campyloptera, 252
 clintoniana, 252
 cristata, 252
 cristata x *intermedia*, 252
 dryopteris, 253
 fragrans, 252
 goldiana, 252
 intermedia, 253
 marginalis, 253
 novaboracensis, 253
 phegopteris, 254
 spinulosa, 253
 thelypteris, 253
 thelypteris var. *pubescens*, 253
 Dulichium, 273
 arundinaceum, 273
 Dulichium, 273
 DUTCHMAN'S BREECHES, 297

E

Echinochloa, 261
 crusgalli, 261
 ELDER, COMMON, 332
 RED-BERRIED, 333
 ELECAMPANE, 341
 Eleocharis, 273
 acicularis, 273
 annua, 274
 capitata, 273
 elliptica, 273
 olivacea, 274
 obtusata, 274
 ovata, 274
 palustris, 274
 Eleocharis—Continued
 robbinsii, 274
 smallii, 274
 tenuis, 273
 ELM, AMERICAN, 289
 FAMILY, 289
 WHITE, 289
 Elodea, 259
 occidentalis, 259
 Elymus, 262
 striatus, 262
 villosus, 262
 virginicus, 262
 EMPETRACEAE, 310
 Empetrum, 310
 nigrum, 310
 Epifagus, 329
 virginiana, 329
 Epigaea, 320
 repens, 320
 Epilobium, 316
 adenocaulon, 316
 angustifolium, 316
 densum, 316
 glandulosum var. *adenocaulon*, 316
 lineare, 316
 palustre, 368
 Epipactis, 283
 repens var. *ophioides*, 283
 tesselata, 283
 EQUISETACEAE, 245
 Equisetum, 245
 arvense, 245
 fluviale, 245
 hyemale var. *affine*, 245
 hyemale var. *robustum*, 245
 limosum, 245
 prealtum, 245
 robustum, 245
 sylvaticum var. *pauciramosum*, 245
 Erechtites, 339
 hieracifolia, 339
 ERICACEAE, 320
 Ericales, 319
 Erigeron, 339
 annuus, 339
 canadensis, 339
 philadelphicus, 339
 ramosus, 339
 ERIOCAULACEAE, 277
 Eriocaulon, 277
 articulatum, 277
 septangulare, 277
 Eriophorum, 274
 alpinum, 276
 callitrix, 274
 spissum, 274
 tenellum, 274
 virginicum, 274
 viridi-carinatum, 274
 Erysimum, 298
 cheiranthoides, 298
 officinale, 299

Erythronium, 279
 americanum, 279
 Euequisetales, 245
 Eufilicales, 248
 Eupatorium, 339
 maculatum, 339
 perfoliatum, 340
purpureum var. *maculatum*, 339
 urticaefolium, 340
 Euphorbia, 310
 cyparissias, 310
 EUPHORBACEAE, 310
Euthamia graminifolia, 342
 EVENING PRIMROSE, 316
 FAMILY, 316
 EVERLASTING, 340

F

FAGACEAE, 289
 Fagales, 288
 Fagopyrum, 290
 esculentum, 290
fagopyrum, 290
 Fagus, 289
 grandifolia, 289
 FALSE LILY-OF-THE-VALLEY, 280
 MELIC, 266
 SOLOMON'S SEAL, 280
 SPIKENARD, 280
 Farinosae, 277
 FERN, ADDER'S-TONGUE, 247
 AMERICAN SHIELD, 253
 BEECH, 254
 BLADDER, 251
 BRITTLE, 251
 CHRISTMAS, 254
 CINNAMON, 248
 CLINTON'S SHIELD, 252
 CRESTED SHIELD, 252
 EASTERN HOLLY, 254
 FAMILY, 248
 FRAGRANT, 252
 GLADE, 251
 GOLDIE'S, 252
 HAY-SCENTED, 251
 INTERRUPTED, 248
 LADY, 248
 MAIDENHAIR, 248
 MARGINAL SHIELD, 253
 MARSH SHIELD, 253
 NEW YORK, 253
 OAK, 253
 OSTRICH, 254
 RATTLESNAKE, 247
 ROYAL, 248
 SENSITIVE, 253
 SPINY-TOOTHED SHIELD, 253
 SPREADING SHIELD, 252
 SWAMP SHIELD, 252
 FESCUE, MEADOW, 262
 NODDING, 262
 RED, 262

Festuca, 262
 elatior, 262
nutans, 262
 obtusa, 262
 rubra, 262
 FIGWORT, 329
 FAMILY, 328
 Filipendula, 303
 ulnaria, 303
Filix bulbifera, 251
fragilis, 251
 Fimbristylis, 275
 autumnalis, 275
frankii, 275
geminata, 275
 FIR, BALSAM, 255
 FIREWEED, 316, 339
Fissipes acaulis, 283
 FIVE-FINGERS, DECUMBENT, 304
 FLAG, BLUE, 282
 SWEET, 276
 FLAX, COMMON, 310
 FAMILY, 310
 FLEABANE, 339
 DAISY, 339
 FLOATING HEART, 325
 FLOWERING FERN FAMILY, 248
 FOXTAIL, 266
 GREEN, 266
 Fragaria, 303
americana, 303
vesca var. *americana*, 303
virginiana, 303
 Fraxinus, 324
americana, 324
nigra, 324
 FROG'S BIT FAMILY, 259

G

Gaillardia, 340
 pulchella, 340
 GAILLARDIA, SHOWY, 340
 Galeopsis, 326
tetrahit, 326
tetrahit var. *bifida*, 326
 Galium, 331
 asprellum, 331
 boreale, 331
 claytoni, 331
 palustre, 331
 trifidum, 331
 triflorum, 331
 Gaultheria, 320
 procumbens, 320
 Gaylussacia, 320
 baccata, 320
 GENTIAN FAMILY, 324
 NARROW-LEAVED, 324
 Gentiana, 324
 linearis, 324
 GENTIANACEAE, 324
 GERANIACEAE, 309

Geraniales, 309
 GERANIUM, 309
 FAMILY, 309
 Geum, 303
 rivale, 303
 strictum, 303
 GILL-OVER-THE-GROUND, 327
 GINSENG, DWARF, 317
 FAMILY, 317
Glechoma hederacea, 327
 GLUMIFLORAE, 259
 Glyceria, 262
 borealis, 262
 canadensis, 262
 canadensis var. laxa, 262
 fernaldii, 263
 laxa, 262
 melicaria, 263
 neogaea, 263
 nervata, 263
 pallida var. fernaldii, 263
 striata, 263
 torreyana, 263
 Gnaphalium, 340
 decurrens, 340
 macounii, 340
 uliginosum, 340
 GOAT'S BEARD, 344
 GOLDENROD, 342
 BOG, 342
 CANADA, 342
 CUT-LEAVED, 342
 DOWNY, 343
 DWARF, 343
 EARLY, 342
 FLAT-TOPPED, 342
 HAIRY, 343
 LARGE-LEAVED, 343
 LATE, 343
 RAGGED, 343
 RAND'S, 343
 WOODS, 342
 ZIGZAG, 342
 GOLDTHREAD, 295
 GOOSEBERRY, EASTERN WILD, 301
 PRICKLY, 301
 GOOSEFOOT FAMILY, 291
 GRAMINEAE, 259
 GRAPE FAMILY, 312
 NEW ENGLAND, 312
 WILD, 312
 GRAPEFERN, CUT-LEAVED, 247
 LEATHERY, 247
 LITTLE, 247
 MATRICARY, 247
 GRASS, ALPINE COTTON, 276
 ANNUAL BLUE, 265
 BARNYARD, 261
 BEARDED WHEAT, 259
 BENT, 260
 BLUE, 265, 266
 BLUE-EYED, 282

GRASS—Continued
 BROME, 261
 CANADA BLUE, 265
 COTTON, 274
 CRINKLED HAIR, 261
 EEL
 FAMILY, 259
 FOWL BLUE, 265
 FOWL MANNA, 263
 FRINGED BROME, 261
 KENTUCKY BLUE, 266
 MANNA, 263
 NORTHERN MANNA, 262
 NORTHERN WOOL, 275
 NORTHERN YELLOW-EYED, 277
 ORCHARD, 261
 POVERTY OAT, 261
 QUACK, 259
 RATTLESNAKE MANNA, 262
 REED, 261, 265
 REED CANARY, 265
 RIB, 330
 RICE, 264
 RICE CUT, 263
 ROUGH COTTON, 274
 SATIN, 264
 SHEATHED COTTON, 274
 SLENDER WHEAT, 259
 SWEET, 263
 SWEET VERNAL, 260
 THIN LEAVED COTTON, 274
 TICKLE, 260
 WITCH, 264
 WOOL, 276
 YELLOW BRISTLE, 266
Grossularia cynosbati, 301
 rotundifolia, 301
 GROUND-CEDAR, 246
 GROUND HEMLOCK, 255
 GROUNDNUT, 317
 GROUND-PINE, 246
 GROUND PINK, 326
 GUTTIFERAE, 313
Gymnadeniopsis clavellata, 284
 Gymnospermae, 255

H

Habenaria, 283
 blephariglottis, 283
 bracteata, 283
 clavellata, 284
 dilatata, 284
 fimbriata, 284
 flava, 284
 flava var. virescens, 284
 hyperborea, 284
 obtusata, 284
 orbiculata, 284
 psycodes, 284
 HALORRHAGACEAE, 317
 HARDHACK, 308
 HAREBELL, 334

HAWKWEED, 340
 ORANGE, 340
 CANADA, 340
 HAZELNUT, BEAKED, 288
 HEAL-ALL, 327
 HEARTWEED, 291
 HEATH FAMILY, 320
 Heliopsis, 340
 scabra, 340
 HELLEBORE, AMERICAN WHITE, 281
 FALSE, 281
 GREEN, 281
 Helobiae, 257
 Hemerocallis, 279
 flava, 279
 fulva, 280
 HEMLOCK, 256
 Hieracium, 340
 aurantiacum, 340
 canadense, 340
 florentinum, 368
 floribundum, 340
 murorum, 368
 pratense, 340
 scabrum, 340
 Hierochloë, 263
 odorata, 263
 odorata var. *fragrans*, 263
 HOBBLE BUSH, 333
 HOLLY, DECIDUOUS, 311
 FAMILY, 311
 MOUNTAIN, 311
Homalocenchrus oryzoides, 263
 HONEYSUCKLE BUSH, 332
 FAMILY, 332
 FLY, 332
 HAIRY, 332
 MOUNTAIN FLY, 332
 TARTARIAN, 332
 HOP, COMMON, 289
 HOP HORNBEAM, 289
 Hordeum, 263
 vulgare, 263
 HOREHOUND, WATER, 326
 HORNBEAM, HOP, 289
 HORSETAIL, COMMON, 245
 FAMILY, 245
 WATER, 245
 WOOD, 245
 HORSEWEED, 339
 Houstonia, 331
 caerulea, 331
 HUCKLEBERRY, BLACK, 320
 Humulus, 289
 lupulus, 289
 Hydrangea, 300
 arborescens, 300
 paniculata var. *grandiflora*, 300
 HYDRANGEA, 300
 WILD, 300
 HYDROCHARITACEAE, 259
 Hydrocotyle, 318
 americana, 318

Hypericum, 313
 boreale, 313
 canadense, 313
 ellipticum, 313
 mutilum, 313
 perforatum, 313
 punctatum, 313
 virginicum, 313
 virginicum var. *fraseri*, 313

I

Ibidium cernuum, 285
 romanoffianum, 368
 strictum, 368
 Ilex, 311
 verticillata, 311
 Ilysanthes, 328
 dubia, 328
 Impatiens, 312
 biflora, 312
 INDIAN PIPE, 319
 POKE, 281
 TOBACCO, 334
 TURNIP, 277
 Inula, 341
 helenium, 341
 IRIDACEAE, 282
 Iris, 282
 versicolor, 282
 IRIS FAMILY, 282
 IRONWOOD, 289
Isnardia palustris, 316
 ISOËTACEAE, 246
 Isoëtales, 246
 Isoëtes, 246
 braunii, 246
 echinospora var. *braunii*, 246
 tuckermani, 246
 IVY, GROUND, 327
 POISON, 310

J

JACK-IN-THE-PULPIT, 277
 STEWARDSON'S, 277
 JEWELWEED, 312
 JOE-PYE WEED, 339
 JUGLANDACEAE, 288
 Juglandales, 288
 Juglans, 288
 cinerea, 288
 JUNCACEAE, 278
Juncoides campestre, 279
 carolinac, 279
 intermedium, 279
 Juncus, 278
 brevicaudatus, 278
 bufonius, 278
 canadensis, 278
 dudleyi, 278
 effusus, 278
 effusus var. *pylaei*, 278
 filiformis, 278

Juncus—Continued

- greenei, 278
- nodosus, 278
- pelocarpus, 279
- tenuis, 279

JUNEBERRY, 302

K

- Kalmia, 320
 - angustifolia, 320
 - polifolia, 320
- KING DEVIL, 368
- KNAPWEED, 338
- Kneiffia perennis*, 316
 - pumila*, 316
- KNOTWEED, 290
- Koniga maritima*, 298

L

- Labiatae, 326
- LABRADOR TEA, 323
- Lactuca, 341
 - canadensis, 341
 - canadensis var. *integrifolia*, 341
 - canadensis var. *montana*, 341
 - integrifolia*, 341
 - spicata, 341
- LADY'S SLIPPER, STEMLESS, 283
 - SHOWY, 283
- LADY'S THUMB, 291
- LADIES' TRESSES, AUTUMN, 285
 - HOODED, 368
- LAMB'S QUARTERS, 291
- Laportea, 289
 - canadensis, 289
- LARCH, AMERICAN, 255
- Larix, 255
 - laricina, 255
- LARKSPUR, 295
- LAUREL, BOG, 320
 - SHEEP, 320
- LEATHER LEAF, 320
- LEATHERWOOD, 315
- Lecticula resupinata*, 330
- Ledum, 323
 - groenlandicum, 323
- Leersia, 263
 - oryzoides, 263
- LEGUMINOSAE, 308
- LENTIBULARIACEAE, 330
- Leontodon taraxacum*, 344
- Leonurus, 326
 - cardiaca, 326
- Lepidium, 298
 - campestre, 298
- Leptamnium virginianum*, 320
- Leptilon canadense*, 339
- LETTUCE, BLUE, 341
 - WILD, 341
- LILAC, COMMON, 324

- LILIACEAE, 279
- Liliiflorae, 278
- Lilium, 368
 - tigrinum, 368
- LILY, DAY, 280
 - FAMILY, 279
 - PECK'S YELLOW POND, 294
 - SMALL YELLOW POND, 294
 - TIGER, 368
 - SWEET WATER, 293
 - WHITE, 293
 - YELLOW DAY, 279
 - YELLOW POND, 294
- LILY-OF-THE-VALLEY, FALSE, 280
- Limnorchis dilatata*, 284
 - hyperborea*, 284
- Limodorum tuberosum*, 282
- LINACEAE, 310
- Linaria, 329
 - linaria, 329
 - vulgaris, 329
- LINDEN, 313
 - FAMILY, 313
- Linnaea, 332
 - americana, 332
 - borealis var. *americana*, 332
- Linum, 310
 - usitatissimum, 310
- Liparis, 285
 - loeselii, 285
- Listera, 285
 - convallarioides, 285
 - cordata, 285
- LIVE-FOR-EVER, 300
- LIVERLEAF WINTERGREEN, 319
- Lobelia, 334
 - cardinalis, 334
 - dortmanna, 334
 - inflata, 334
 - kalmii, 334
 - spicata, 334
 - spicata var. *hirtella*, 334
- LOBELIA, BROOK, 334
 - PALE SPIKED, 334
 - WATER, 334
- Lobularia, 298
 - maritima, 298
- Lonicera, 332
 - caerulea, 332
 - canadensis, 332
 - hirsuta, 332
 - tatarica, 332
 - villosa var. *tonsa*, 332
- LOOSESTRIFE, FRINGED, 324
 - YELLOW, 324
- LORANTHACEAE, 290
- Ludwigia, 316
 - palustris var. *americana*, 316
- LUNGWORT GOLDEN, 368
- Luzula, 279
 - campestris var. *multiflora*, 279
 - multiflora, 279
 - saltuensis, 279

- Lychnis, 292
 alba, 292
 chalconica, 292
 LYCHNIS, SCARLET, 292
 LYCOPODIACEAE, 245
 Lycopodiales, 245
 Lycopodium, 245
 annotinum, 245
 clavatum, 245
 complanatum, 246
 complanatum var. *flabelliforme*, 246
 flabelliforme, 246
 inundatum, 246
 lucidulum, 246
 obscurum, 246
 obscurum var. *dendroideum*, 246
 tristachyum, 246
 Lycopus, 326
 americanus, 326
 uniflorus, 327
Lysias orbiculata, 284
Lysicella obtusata, 284
 Lysimachia, 323
 nummularia, 323
 terrestris, 324

M

- Madder FAMILY, 331
 Maianthemum, 280
 canadense, 280
Malaxis monophylla, 285
 unifolia, 285
 MALLOW FAMILY, 313
 MUSK, 313
 Malus, 303
 malus, 303
 pumila, 303
 Malva, 313
 moschata, 313
 MALVACEAE, 313
 Malvales, 313
 MAPLE FAMILY, 311
 MOUNTAIN, 311
 RED, 311
 ROCK, 311
 SILVER, 311
 SOFT, 311
 STRIPED, 311
 SUGAR, 311
 WHITE, 311
 MARIGOLD, 343
 MARSH, 295
 Mariscus, 275
 mariscoides, 275
 MARSH BEDSTRAW, 331, 333
 BELL-FLOWER, 334
 MARIGOLD, 295
Matteuccia struthiopteris, 254
 MAYFLOWER, 320
 MEADOW RUE, TALL, 296
 MEADOW SWEET, 307
 Medeola, 280
 virginiana, 280
 Medicago, 308
 lupulina, 308
 MELIC, FALSE, 266
Melica purpurascens, 266
 striata, 266
 MELILOT, WHITE, 308
 YELLOW, 308
 Melilotus, 308
 alba, 308
 officinalis, 308
 Mentha, 327
 arvensis var. *canadensis*, 327
 canadensis, 327
 Menyanthes, 325
 trifoliata, 325
 MEZEREUM FAMILY, 315
 Microspermae, 282
 Microstylis, 285
 monophyllos, 285
 unifolia, 285
 Milium, 263
 effusum, 263
 MILKWEED, COMMON, 325
 FAMILY, 325
 SWAMP, 325
 Mimulus, 329
 ringens, 329
 MINT, 327
 FAMILY, 326
 MISTLETOE, DWARF, 290
 FAMILY, 290
 Mitchella, 332
 repens, 332
 Mitella, 300
 nuda, 300
 MITERWORT, 300
 FALSE, 301
 MOCCASIN FLOWER, 283
 Monarda, 327
 didyma, 327
 fistulosa, 327
 Moneses, 319
 uniflora, 319
 MONEYWORT, 323
 MONKEY FLOWER, 320
 Monocotyledoneae, 256
 Monotropa, 319
 uniflora, 319
 MOOSEWOOD, 311
 MORNING-GLORY FAMILY, 325
 Moss PINK, 326
 MOTHERWORT, 326
 Muhlenbergia, 264
 foliosa, 264
 mexicana, 264
 racemosa, 264
 sylvatica, 264
 umbrosa, 264
 uniflora, 264
 MUHLY, 264
 MULLEIN, COMMON, 329

MUSTARD FAMILY, 297

HEDGE, 299

TOWER, 297

TUMBLE, 299

SPRING, 297

WILD, 298

WORM-SEED, 298

Myrica, 287

gale, 287, 288

gale var. subglabra, 288

MYRICACEAE, 287

Myricales, 287

Myriophyllum, 317

farwellii, 317

tenellum, 317

Myrtiflorae, 315

MYRTLE, YELLOW, 323

N

Nabalus altissimus, 341

NAIAD FAMILY, 258

SLENDER, 258

Naias flexilis, 258

NAJADACEAE, 258

Najas, 258

flexilis, 258

NANNYBERRY, 333

Narcissus, 282

incomparabilis, 282

pseudo-narcissus, 282

NARCISSUS FAMILY, 282

NASTURTIUM, 309

FAMILY, 309

Nemopanthus, 311

mucronata, 311

Nepeta, 327

cataria, 327

hederacea, 327

NETTLE, COMMON, 290

FAMILY, 289

HEMP, 326

WOOD, 289

NIGGER-HEAD, 341

NIGHTSHADE, BLUE, 328

ENCHANTER'S, 316

FAMILY, 328

Norta altissima, 299

Nuphar, 294

advena var. variegatum, 294

microphyllum, 294

rubrodiscum, 294

Nymphaea, 293

advena, 294

advena var. variegata, 294

microphylla, 294

odorata, 293

rubrodisca, 294

NYMPHAEACEAE, 293

Nymphoides, 325

lacunosum, 325

Nymphozanthus microphyllus, 294

variegatus, 294

O

OAK, POISON, 310

RED, 289

Oakcsia sessilifolia, 281*Oakesiella sessilifolia*, 281

OAT, PURPLE, 266

Oenothera, 316

biennis, 316

muricata, 316

parviflora, 316

perennis, 316

pumila, 316

OENOTHERACEAE, 316

OLEACEAE, 324

OLIVE FAMILY, 324

Onoclea, 253

sensibilis, 253

struthiopteris, 254

OPHIOGLOSSACEAE, 247

Ophioglossales, 247

Ophioglossum, 247

vulgatum, 247

Ophrys convallarioides, 285

cordata, 285

ORCHID FAMILY, 282

LONG-BRACTED, 283

PURPLE FRINGED, 284

ROUND-LEAVED, 284

SMALL GREEN WOOD, 284

SMALL NORTHERN BOG, 284

SMALL PALE-GREEN, 284

TALL LEAFY GREEN, 284

TALL WHITE BOG, 284

WHITE FRINGED, 283

ORCHIDACEAE, 282

OROBANCHACEAE, 329

Orobanche, 330

uniflora, 330

ORPINE FAMILY, 300

Oryzopsis, 264

asperifolia, 264

OSIER, RED, 319

Osmorhiza, 318

claytoni, 318

Osmunda, 248

cinnamomea, 248

claytoniana, 248

regalis, 248

regalis var. spectabilis, 248

OSMUNDACEAE, 248

Ostrya, 289

virginiana, 289

OSWEGO TEA, 327

OX-EYE, ROUGH, 340

OXALIDACEAE, 309

Oxalis, 309

acetosella, 309

corniculata, 309

montana, 309

europaea forma cymosa, 309

europaea forma villicaulis, 309

Oxycoccus macrocarpus, 323

oxycoccus, 323

P

- Padus nana*, 305
virginiana, 305
Paeonia, 295
albiflora, 295
Paeony, 295
Panax, 317
trifolium, 317
 Paint-brush, Devil's, 340
Pandanales, 256
Panicularia borealis, 262
canadensis, 262
fernaldii, 263
laxa, 262
melicaria, 263
nervata, 263
pallida, 263
torreyana, 263
Panicum, 264
boreale, 264
capillare, 264
huachucae, 264
implicatum, 264
lindheimeri var. *fasciculatum*, 264
lindheimeri var. *implicatum*, 264
philadelphicum, 265
spretum, 265
Panicum, 264, 265
 PANSY, 315
 PAPAVERACEAE, 297
Parietales, 313
 PARSLEY FAMILY, 317
 PARSNIP, MEADOW, 318
 WILD, 318
Parthenocissus, 312
quinquefolia, 312
quinquefolia var. *hirsuta*, 312
 PARTRIDGE BERRY, 332
Pastinaca, 318
sativa, 318
 PEA FAMILY, 308
 PEARLY EVERLASTING, 336
Pelargonium, 309
hortorum, 309
 PENNYWORT, WATER, 318
 PEPPER, WATER, 291
 PEPPERGRASS, DOWNY, 298
Peramium ophioides, 283
secundum, 283
tesselatum, 283
 PERIWINKLE, 325
Persicaria amphibia, 290
hydropiper, 291
persicaria, 291
Perularia flava, 284
Petasites, 341
palmaris, 341
Petunia, 328
axillaris, 328
hybrida, 328
 PETUNIA, COMMON GARDEN, 328
 WHITE, 328
Phalaris, 265
arundinacea, 265
Phegopteris, 253
dryopteris, 253
polypodioides, 254
Philotria angustifolia, 259
occidentalis, 259
Phleum, 265
pratense, 265
Phlox, 326
maculata, 326
paniculata, 326
subulata, 326
 PHLOX FAMILY, 326
 GARDEN, 326
Phragmites, 265
communis, 265
phragmites, 265
Physalis, 328
alkekengi, 328
heterophylla, 328
Picea, 255
abies, 255
canadensis, 255
glauc, 255
mariana, 255
rubens, 256
rubra, 256
 PICKEREL-WEED, 278
 FAMILY, 278
 PIGWEED, 291, 292
 PIMPERNEL, FALSE, 328
 PINACEAE, 255
 PINE, NORTHERN WHITE, 256
 NORWAY, 256
 RED, 256
 PINK FAMILY, 292
 GRASS, 282
 GROUND, 326
 MOSS, 326
 WILD, 282
Pinus, 256
resinosa, 256
strobus, 256
 PIPES, 245
 PIPEWORT FAMILY, 277
 SEVEN-ANGLED, 277
 PIPSISSEWA, 319
Pirola, 319
asarifolia, 319
elliptica, 319
rotundifolia var. *americana*, 319
secunda, 320
 PIROLACEAE, 319
 PITCHER PLANT, 299
 FAMILY, 299
 PLANTAGINACEAE, 330
 Plantaginales, 330
Plantago, 330
lanceolata, 330
major, 331

- PLANTAIN, 331
 ENGLISH, 330
 FAMILY, 330
 RATTLESNAKE, 283
 PLUM, WILD, 304
 Poa, 265
 alsodes, 265
 annua, 265
 compressa, 265
 debilis, 265
 languida, 265
 palustris, 265
 pratensis, 266
 saltuensis, 266
 triflora, 265
 Pogonia, 285
 ophioglossoides, 285
 POGONIA, ROSE, 285
 POKE, INDIAN, 281
 POLEMONIACEAE, 326
 POLYGONACEAE, 290
 Polygonales, 290
 Polygonatum, 280
 biflorum, 280
 pubescens, 280
 Polygonum, 290
 amphibium, 290
 aviculare, 290
 cilinode, 290
 convolvulus, 291
 fluitans, 290
 hydropiper, 291
 persicaria, 291
 sagittatum, 291
 POLYPODIACEAE, 248
 Polypodium, 254
 virginianum, 254
 vulgare, 254
 POLYPODY, COMMON, 254
 Polystichum, 254
 acrostichoides, 254
 braunii, 254
 braunii var. purshii, 254
 PONDWEED, 257, 258
 CLASPING-LEAVED, 258
 COMMON FLOATING, 258
 FAMILY, 257
 LARGE-LEAVED, 257
 NUTTALL'S, 257
 ROBBINS, 258
 SMALL, 258
 SPIRAL, 258
 VARIOUS-LEAVED, 368
 Pontederia, 278
 cordata, 278
 PONTEDERIACEAE, 278
 POPLAR, BALSAM, 286
 POPPY FAMILY, 297
 Populus, 286
 balsamifera, 286
 grandidentata, 286
 tacamahacca, 286
 tremuloides, 286
 Portulaca, 292
 grandiflora, 292
 PORTULACA, GARDEN, 292
 PORTULACACEAE, 292
 Potamogeton, 257
 amplifolius, 257
 capillaceus, 257
 dimorphus, 257
 epihydrus, 257
 gramineus var. graminifolius, 368
 heterophyllus, 368
 natans, 258
 perfoliatus, 258
 pusillus var. typicus, 258
 robbinsii, 258
 spirillus, 258
 POTAMOGETONACEAE, 257
 Potentilla, 303
 argentea, 303
 canadensis var. simplex, 304
 fruticosa, 304
 monspeliensis, 304
 norvegica var. hirsuta, 304
 palustris, 304
 recta, 304
 recta var. sulphurea, 304
 simplex, 304
 tridentata, 304
 Prenanthes, 341
 altissima, 341
 PRIMROSE, 324
 FAMILY, 323
 Primula, 324
 veris, 324
 PRIMULACEAE, 323
 Primulales, 323
 PRINCE'S PINE, 319
 Prunella, 327
 vulgaris, 327
 Prunus, 304
 nigra, 304
 pensylvanica, 304
 serotina, 305
 virginiana, 305
 Psedera quinquefolia, 312
 quinquefolia var. hirsuta, 312
 Pteretis, 254
 nodulosa, 254
 Pteridium, 254
 aquilinum, 254
 latiusculum, 254
 Pteridophyta, 245
 Pteris aquilina, 254
 PURSLANE FAMILY, 292
 WATER, 316
 PUSSY'S TOES, 336
 Pyrolla americana, 319
 Pyrus americana, 307
 melanocarpa, 302
 malus, 303
 sitchensis, 307

Q

QUEEN-OF-THE-MEADOW, 303

Quercus, 289

borealis var. *maxima*, 289

rubra, 289

QUILLWORT, BRAUN'S, 246

FAMILY, 246

TUCKERMAN'S, 246

R

Radicula palustris, 299

RADISH, WILD, 290

RAGWEED, 334, 336

RAGWORT, GOLDEN, 341, 342

RAISIN, WILD, 333

Ranales, 293

RANUNCULACEAE, 294

Ranunculus, 295

abortivus, 295

acris, 296

flamula var. *filiformis*, 296

pensylvanicus, 296

recurvatus, 296

repens, 296

reptans, 296

septentrionalis, 296

Raphanus, 299

raphanistrum, 299

RASPBERRY, DWARF, 306

RED, 306

FLOWERING, 307

RATTLESNAKE ROOT, 341

Razoumofskyia pusilla, 290

RED OSIER, 319

REDTOP, 260

RHAMNACEAE, 312

Rhamnales, 312

Rhamnus, 312

alnifolia, 312

Rheum, 291

rhaponticum, 291

Rhoeadales, 297

RHUBARB, 291

Rhus, 310

hirta, 310

toxicodendron, 310

typhina, 310

Ribes, 301

cynosbati, 301

glandulosum, 301

lacustre, 301

prostratum, 301

rotundifolia, 301

triste, 301

triste var. *albinervium*, 301

Roripa palustris, 299

Rorippa, 299

islandica var. *fernaldiana*, 299

Rosa, 305

blanda, 305

carolina, 305

carolina var. *villorsa*, 305

Rosa—Continued

damascena, 305

humilis, 305

palustris, 305

spinosissima, 305

suffulta, 305

suffulta var. *valida*, 305

virginiana, 305

ROSACEAE, 301

Rosales, 300

ROSE, 305

DAMASK, 305

FAMILY, 301

LOW PASTURE, 305

MEADOW, 305

Scotch, 305

SWAMP, 305

WILD, 305

RUBIACEAE, 331

Rubiales, 331

Rubus, 306

acaulis, 306

allegheniensis, 306

amicalis, 306

canadensis, 306

canadensis var. *elegantulus*, 306

elegantulus, 306

glandicaulis, 306

hispidus, 306

hispidus var. *major*, 306

idaeus var. *aculeatissimus*, 306

idaeus var. *canadensis*, 306

idaeus var. *strigosus*, 306

juncus, 307

montpelierensis, 307

nigricans, 307

odoratus, 307

pergratus, 307

pubescens, 306

setosus, 307

strigosus, 306

strigosus var. *canadensis*, 306

triflorus, 306

sp. 307

Rudbeckia, 341

hirta, 341

laciniata, 341

RUE, TALL MEADOW, 296

Rumex, 291

acetosella, 291

elongatus, 291

obtusifolius, 291

RUNNING-PINE, 245

RUSH, BEAK, 275

BLUNT SPIKE, 274

BRIGHT-GREEN SPIKE, 274

BROWNISH BEAKED, 275

BROWN-FRUITED, 279

CANADA, 278

CLUSTERED BEAK, 275

COMMON, 278

COMMON WOOD, 279

CREeping SPIKE, 274

RUSH—Continued

- DUDLEY'S, 278
- FAMILY, 278
- GREENE'S, 278
- HAIRY WOOD, 279
- KNOTTED, 278
- NARROW PANICLED, 278
- OVOID SPIKE, 274
- PATH, 279
- ROBBIN'S SPIKE, 274
- SLENDER SPIKE, 273
- SMALL'S SPIKE, 274
- SOFT, 278
- SPIKE, 273
- TALL SCOURING, 245
- THREAD, 278
- TOAD, 278
- TORREY'S, 276
- WATER BOG, 275
- WATER CLUB, 276
- RYE, VIRGINIA WILD, 262
- WILD, 262

- RYNCHOSPORA, 275
- alba, 275
- capitellata, 275
- fusca, 275
- glomerata, 275

S

- Sagittaria, 259
- graminea, 259
- latifolia, 259
- SAGITTARIA, GRASS-LEAVED, 259
- SALICACEAE, 286
- Salicales, 286
- Salix, 286
- balsamifera, 287
- bebbiana, 286
- cordata, 287
- cordata x sericea, 287
- discolor, 286
- discolor var. prinoides, 286
- humilis, 286
- lucida, 286
- lucida var. angustifolia, 286
- lucida var. intonsa, 287
- pedicellaris, 287
- petiolaris, 287
- pyrifolia, 287
- rostrata, 286
- sericea, 287
- subsericea, 287
- Sambucus, 332
- canadensis, 332
- racemosa, 333
- Sanguisorba, 307
- canadensis, 307
- SANICLE, 318
- Sanicula, 318
- marilandica, 318
- Santalales, 290
- Sapindales, 310

- Saponaria, 293
- vaccaria, 293
- Sarracenia, 299
- purpurea, 299
- SARRACENIACEAE, 299
- Sarraceniales, 299
- SARSAPARILLA, BRISTLY, 317
- WILD, 317
- Satureja, 328
- vulgaris, 328
- Savastana nashii, 263
- odorata, 263
- SAXIFRAGACEAE, 300
- SAXIFRAGE FAMILY, 300
- GOLDEN, 300
- Scheuchzeria, 258
- palustris var. americana, 258
- SCHIEUCHZERACEAE, 258
- Schizachne, 266
- purpurascens, 266
- Scirpus, 275
- atrocinctus, 275
- atrovirens, 275
- atrovirens var. georgianus, 275
- cyperinus, 276
- cyperinus var. pelius, 276
- georgianus, 275
- hudsonianus, 276
- microcarpus, 276
- peckii, 276
- pedicellatus, 276
- rubrotinctus, 276
- subterminalis, 276
- torreyi, 276
- validus, 276
- SCROPHULARIACEAE, 328
- Scrophularia, 329
- lanceolata, 329
- leporella, 329
- Scutellaria, 327
- epilobiifolia, 327
- galericulata, 327
- lateriflora, 327
- SEDGE, AWL-FRUITED, 272
- BAILEY'S, 267
- BEAKED, 272
- BEBB'S, 267
- BLADDER, 270
- BOG, 271
- BRISTLE-STALKED, 270
- BRISTLY, 268
- BROWN, 267
- BROWNISH, 267
- CHESTNUT, 267
- COAST, 269
- CRAWFORD'S, 268
- CYPERUS-LIKE, 271
- DEWEY'S, 267
- DROOPING WOOD, 267
- FAMILY, 266
- FEW-FLOWERED, 271
- FEW-SEEDED, 271
- FIBROUS-ROOTED, 268

SEDGE—Continued

- FOX, 273
 GOLDEN-FRUITED, 267
 GRACEFUL, 269
 GREEN, 273
 HAY, 266
 HAYDEN'S, 269
 HOUGHTON'S, 269
 INFLATED, 273
 INLAND, 270
 LAKE-BANK, 270
 LENTICULAR, 270
 LESSER PANICLED, 269
 LITTLE PRICKLY, 268
 LONG, 269
 LONG-STALKED, 271
 LOOSE-FLOWERED, 270
 MICHAUX'S, 271
 MUD, 270
 NECKLACE, 271
 NEW ENGLAND, 271
 NODDING, 269
 NORTHERN, 268
 NORTHERN PRICKLY, 267
 NORTHERN TUSOCK, 272
 NORTHERN WATER, 272
 NORTHERN WOODLAND, 270
 PALE, 271
 PECK'S, 271
 PLANTAIN-LEAVED, 271
 POINTED BROOM, 272
 PORCUPINE, 270
 RETROSE, 272
 ROUGH, 272
 SALLOW, 271
 SILVERY, 267
 SLENDER, 270
 SLENDER-STALKED, 269
 SLENDER-STRAW, 272
 SMALL YELLOW, 268
 SOFT-LEAVED, 269
 SPARSE-FLOWERED, 273
 THREE-FRUITED, 273
 TUSOCK, 272
 YELLOW, 269
 YELLOW FOX, 267
- Sedum, 300
 purpureum, 300
 triphyllum, 300
- SELF-HEAL, 327
- Senecio, 341
 aureus, 341
 aureus x *robbinsii*, 342
 robbinsii, 342
- SERVICEBERRY, 302
- Setaria, 266
 glauca, 266
 lutescens, 266
 viridis, 266
- SHADBUSH, 302
- SHEEPBERRY, 333
- SHEPHERD'S PURSE, 298
- SHINLEAF, 319
 SECOND, 320
 ONE-FLOWERED, 319
- Sibbaldiopsis tridentata*, 304
- Silene, 293
 latifolia, 293
 noctiflora, 368
- Sinapis arvensis*, 298
- Sisymbrium, 299
 altissimum, 299
 officinale, 299
- Sisyrinchium, 282
 angustifolium, 282
- SKULLCAP, MAD-DOG, 327
 MARSH, 327
- SMARTWEED, 291
 WATER, 293
- Smilacina, 280
 racemosa, 280
 stellata, 280
 trifolia, 280
- Smilax, 281
 herbacea, 281
- SNAKEMOUTH, 285
- SNAKEROOT, WHITE, 340
- SNOWBERRY, CREEPING, 320
- SOLANACEAE, 328
- Solanum, 328
 dulcamara, 328
- Solidago, 342
 altissima, 342
 arguta, 342
 canadensis, 342
 caesia, 342
 flexicaulis, 342
 graminifolia, 342
 humilis, 342
 juncea, 342
 latifolia, 342
 macrophylla, 343
 nemoralis, 343
 puberula, 343
 randii, 343
 rugosa, 343
 serotina, 343
 serotina var. *gigantea*, 343
 squarrosa, 343
 uliginosa, 342
- SOLOMON'S SEAL, FALSE, 280
 SMALL, 280
 THREE-LEAVED, 280
 TWO-LEAVED, 280
- Sorbus, 307
 americana, 307
 dumosa, 307
 scopolina, 307
- SORREL, FIELD, 291
 SHEEP, 291
 WOOD, 291
- SOUR-TOP, 323

SPARGANIACEAE, 257

- Sparganium, 257
 acaule, 257
 americanum, 257
 angustifolium, 257
 chlorocarpum var. *acaule*, 257
 diversifolium var. *acaule*, 257
 fluctuans, 257
 minimum, 368
 Spathiflorae, 276
 SPATTER-DOCK, 294
 SPEARWORT, CREEPING, 276
 SPEEDWELL, COMMON, 329
 MARSH, 329
 THYME-LEAVED, 329
 Spermatophyta, 255
 SPIKENARD, 317
 FALSE, 280
 Spiranthus, 285
 cernua, 285
 romanzoffiana, 368
 Spiraea, 307
 latifolia, 307
 tomentosa, 308
 SPLEENWORT, NARROW-LEAVED, 251
 SILVERY, 251
Sporobolus uniflorus, 264
 SPRING BEAUTY, 292
 SPRUCE, BLACK, 255
 NORWAY, 255
 RED, 256
 SWAMP, 255
 WHITE, 255
 SPURGE, FAMILY, 310
 CYPRESS, 310
 SQUIRREL CORN, 297
 Stachys, 328
 palustris var. *homotricha*, 328
 STAFF TREE FAMILY, 311
 STARFLOWER, 324
 STEEPLE BUSH, 308
 Steironema, 324
 ciliatum, 324
 Stellaria, 293
 aquatica, 293
 borealis, 293
 graminea, 293
 media, 293
 STICK-TIGHT, 338
 STITCHWORT, LESSER, 293
 NORTHERN, 293
 ST. JOHN'S-WORT, CANADIAN, 313
 COMMON, 313
 ELLIPTIC-LEAVED, 313
 FAMILY, 313
 MARSH, 313
 NORTHERN, 313
 SMALL-FLOWERED, 313
 SPOTTED, 313
Stomosis cornuta, 330
 STRAWBERRY, 303
 BARREN, 308
 FIELD, 303

- Streptopus, 281
 amplexifolius, 281
 roseus, 281
 Subularia, 299
 aquatica, 299
 SUMACH, STAGHORN, 310
 SUNDEW FAMILY, 300
 ROUND-LEAVED, 300
 SPATULATE-LEAVED, 300
 SUNDROPS, 316
 SWEET GALE, 287
 FAMILY, 287
 SWEET WILLIAM, 292
 WILD, 326
 Symphytum, 326
 officinale, 326
 Syringa, 324
 vulgaris, 324

T

- TACAMAHAC, 286
 Tagetes, 343
 signata, 343
 TAMARACK, 255
 Tanacetum, 343
 vulgare, 343
 TANSY, 343
 Taraxacum, 344
 officinale, 344
 TAXACEAE, 255
 Taxus, 255
 canadensis, 255
 TEARTHUMB, ARROW-LEAVED, 291
Thalesia uniflora, 330
 Thalictrum, 296
 canadense var. *hebecarpum*, 296
 polygamum, 296
 polygamum var. *hebecarpum*, 296
 Thaspium, 318
 barbinode, 318
Thelypteris clintoniana, 252
 cristata, 252
 cristata var. *clintaniana*, 252
 cristata x *intermedia*, 252
 dilatata var. *americana*, 252
 dryopteris, 253
 fragrans, 252
 goldiana, 252
 intermedia, 253
 marginalis, 253
 notchboracensis, 253
 palustris, 253
 phlegopteris, 254
 spinulosa, 253
 spinulosa var. *intermedia*, 253
 thelypteris, 253
 THIMBLE-WEED, 294
 THISTLE, BULL, 339
 CANADA, 339
 SWAMP, 339
 THORN, 302
 Thuja, 256
 occidentalis, 256

THYMELAEACEAE, 315

Tiarella, 301

cordifolia, 301

Tilia, 313

americana, 313

TILIACEAE, 313

TIMOTHY, 265

Tiniaria cilinodis, 291*convolvulus*, 291*Tithymalus cyparissias*, 310

TOADEFLAX, YELLOW, 321

TOOTH WORT, 298

Torresia nashii, 263

odorata, 263

TOUCH-ME-NOT FAMILY, 312

SPOTTED, 312

Toxicodendron toxicodendron, 310*Tracaulon sagittatum*, 291*Trachysperma lacumosa*, 325

Tragopogon, 344

pratensis, 344

TRAILING CHRISTMAS-GREEN, 246

TRESSES, AUTUMN LADIES', 285

Triadenum virginicum, 313*Trichelostylis autumnalis*, 275

Trientalis, 324

americana, 324

borealis, 324

Trifolium, 308

agrarium, 308

hybridum, 308

pratense, 308

repens, 308

Trillium, 281

erectum, 281

undulatum, 281

TRILLIUM, PAINTED, 281

RED, 281

Trisetum, 266

spicatum, 266

TRISETUM, SPIKE, 266

TROPAEOLACEAE, 309

Tropaeolum, 309

majus, 309

Tsuga, 256

canadensis, 256

Tubiflorae, 325

TULIP, 281

Tulipa, 281

gesneriana, 281

TURNIP, WILD, 298

TURTLEHEAD, 328

TWAYBLADE, 285

BROAD-LIPPED, 285

HEART-LEAVED, 285

TWIN-FLOWER, 332

TWISTED STALK, CLASPING-LEAVED, 281

SESSILE-LEAVED, 281

Typha, 256

latifolia, 256

TYPHACEAE, 256

U

ULMACEAE, 289

Ulmus, 289

americana, 289

UMBELLIFERAE, 317

Umbelliflorae, 317

Unifolium canadense, 280

Urtica, 290

gracilis, 290

URTICACEAE, 289

Urticales, 289

Urticastrum divaricatum, 289

Utricularia, 330

cornuta, 330

gibba, 330

intermedia, 330

macrorrhiza, 330

purpurea, 330

resupinata, 330

vulgaris var. americana, 330

Uvularia, 281

sessilifolia, 281

V

Vaccaria vaccaria, 293

Vaccinium, 323

angustifolium, 323

canadense, 323

macrocarpon, 323

oxycoccus, 323

pensylvanicum, 323

uliginosum, 323

Vagnera racemosa, 280

stellata, 280

trifolia, 280

Vallisneria, 369

americana, 369

spiralis, 369

Veratrum, 281

viride, 281

Verbascum, 329

thapsus, 329

Veronica, 329

americana, 329

officinalis, 329

scutellata, 329

serpyllifolia, 329

Vesiculina purpurea, 330

VETCH, BLUE, 309

NARROW-LEAVED, 309

TUFTED, 309

WILD, 309

Viburnum, 333

alnifolium, 333

cassinoides, 333

dentatum, 333

lentago, 333

opulus, 333

opulus var. americanum, 333

Vicia, 309

angustifolia, 309

cracca, 309

- Vinca, 325
 minor, 325
 Viola, 314
 blanda, 314
 canadensis, 314
 conspersa, 314
 cucullata, 314
 cucullata x septentrionalis, 314
 eriocarpa, 314
 eriocarpa var. leiocarpa, 314
 incognita, 314
 incognita var. forbesii, 314
 lanceolata, 314
 lanceolata x pallens, 314
 pallens, 315
 pubescens, 315
 renifolia, 315
 renifolia var. brainerdii, 315
 rotundifolia, 315
 scabriuscula, 314
 silkirkii, 315
 septentrionalis, 315
 tricolor var. hortensis, 315
 VIOLACEAE, 314
 VIOLET, CANADA, 314
 DOG, 314
 FALSE, 303
 FAMILY, 314
 GREAT-SPURRED, 315
 LANCE-LEAVED, 314
 MARSH BLUE, 314
 NORTHERN BLUE, 315
 ROUND-LEAVED, 315
 WHITE, 314, 315
 YELLOW, 314, 315
 VIRGINIA CREEPER, 312
 VIRGIN'S BOWER, 295
 VITACEAE, 312
 Vitis, 312
 novae-angliae, 312

W

- WAKE ROBIN, PAINTED, 281
 Waldsteinia, 308
 fragarioides, 308
 WALNUT FAMILY, 288
Washingtonia claytoni, 318
 Water carpet, 300
 WATER HEMLOCK, BULB-BEARING, 317
 WATER LILY FAMILY, 293
 SWEET, 293
 WHITE, 293
 WATER MILFOIL, 317
 FAMILY, 317
 SLENDER, 317
 WATER PENNYWORT, 318
 WATER-PLANTAIN FAMILY, 259
 WATER SHIELD, 293

- WATER STARWORT, 310
 FAMILY, 310
 WATER-WEED, 259
 WILLOW, 287
 BALSAM, 287
 BEBB'S, 286
 BOG, 287
 FAMILY, 286
 GLAUCCOUS, 286
 PRAIRIE, 286
 PUSSY, 286
 SHINING, 286
 SILKY, 287
 SLENDER, 287
 WILLOW-HERB, 316
 LINEAR-LEAVED, 316
 MARSH, 368
 WINTERBERRY, 311
 WINTERGREEN, 320
 FAMILY, 319
 LIVERLEAF, 319
 WITCH HOBBLE, 333
 WITHE-ROD, 333
 WOODBINE, 295, 312
 WOODREED, DROOPING, 261
 Woodsia, 255
 ilvensis, 255
 WOODSIA, RUSTY, 255
 WOOD SORREL FAMILY, 309
 PINK, 309
 YELLOW, 309
 WORMWOOD, 337
 WOUNDWORT, 328

X

- Xanthoxalis cymosa*, 309
 XYRIDACEAE, 277
 Xyris, 277
 montana, 277

Y

- YARROW, 334
 YELLOW-EYED GRASS FAMILY, 277
 NORTHERN, 277
 YEW, AMERICAN, 255
 CANADA, 255
 FAMILY, 255

Z

- ZEA, 369
 mays, 369
 Zinnia, 344
 elegans, 344
 ZINNIA, 344
 Zizia, 318
 aurea, 318

ADDENDA

The following species are additions to the Annotated List which were collected on the Forest during the summer of 1940. These collections have been compared with herbarium material at the University of Minnesota.

1. *Epilobium palustre* L. MARSH WILLOW-HERB.

Bog one-fourth mile south of Wolf Pond; in wet sphagnum; rare.

P. 316, after L. 17.

2. *Hieracium florentinum* All. KING DEVIL.

Wooded slopes near the ranger station; in well-drained sandy soil; occasional.

P. 340, after L. 23.

3. *Hieracium murorum* L. GOLDEN LUNGWORT.

Yard of the Arbutus camp; in sandy soil; rare.

P. 340, after L. 25.

Lilium (Tourn.) L.

4. *Lilium tigrinum* Ker. TIGER LILY.

Clearing near the state highway; in sandy soil; rare. Escaped from cultivation, but not spreading.

P. 280, after L. 4.

5. *Potamogeton gramineus* L. var. *graminifolius* Fries. VARIOUS-LEAVED PONDWEED.

Potamogeton heterophyllus of B. & B. and of Gray.

Aquatic of Deer Lake and Rich Lake in 0.5-1 m. of water; rooted in muck or sand; scarce.

P. 257, bottom.

6. *Silene noctiflora* L. NIGHT-FLOWERING CATCHFLY.

Clearings; in well-drained sandy soil; rare.

P. 293, after L. 7.

7. *Sparganium minimum* Fries. SMALL BUR-REED.

Shore of Arbutus Lake; in wet muck; rare.

P. 257, after L. 19.

8. *Spiranthes romanzoffiana* Cham. HOODED LADIES' TRESSES.

Ibidium romanzoffianum of House.

Ibidium strictum of B. & B.

Bog south of Wolf Pond; in wet sphagnum; rare.

P. 285, after bottom.

Vallisneria (Michx.) L.

9. **Vallisneria americana** Michx.

EEL GRASS.

Vallisneria spiralis of Gray, of House, and of B. & B.

Aquatic in 0.3-2.5 m. of water in lakes Rich, Arbutus, Catlin, and Deer; in sand or muck; common.

P. 259, after L. 17.

Zea L.

10. **Zea mays** L.

CORN.

Arbutus camp; in well-drained sandy soil; rare. The few plants of this species present on the Forest have grown from seed lost from the Station's bait supply. Most species of which the seed or fruit is used for bait or for wildlife feeding may be expected to be found growing on the Forest.

P. 266, after L. 30.

PART V. A PRELIMINARY LIST OF THE LICHENS OF THE HUNTINGTON FOREST

By

JOSIAH L. LOWE

*Instructor, Department of Forest Botany and Pathology
New York State College of Forestry
Syracuse, New York*

INTRODUCTION

Since Spiker ('33, pp. 343, 370) has noted the use of lichens as food for deer in other parts of the Adirondacks, it may be assumed that the deer on the Archer and Anna Huntington Wildlife Forest Station (hereafter termed the Huntington Forest or the Forest) at Newcomb eat them during extreme conditions when other plant food is not readily available. The staff of the Roosevelt Wildlife Forest Experiment Station have no positive records of this, however, as work has not yet been done on this phase of the food problem.

The Forest is representative of a very large part of the Adirondacks with similar range of elevation and relief. There is a great variety of habitats, such as burned-over areas in which sufficient time has elapsed to allow the lichens to have become established, lake shores, open swampy areas, open talus slopes, and under the canopy of forest trees. The variety in habitats is further increased by a variation of about 1100 feet in elevation on the Forest.

During August, 1934, and for about two weeks in August, 1936, the writer collected lichens on the Forest, principally on the talus slope on the west side of Panther Mountain, on the burn near the northeast shore of Catlin Lake, and in the swamp area at the outlet of Deer Pond. The collecting was directed specifically toward securing specimens of *Lecideas*, consequently collections of species in other genera were less complete. The list, therefore, is incomplete, and the distribution notes (except for *Lecidea*) are based on the writer's records for the Adirondacks as a whole.

The annotated list of 207 species and varieties given below represents, for the most part, species that would be expected to occur on the area. The following, however, are worthy of special note: *Lecidea nemoralis* and *L. suberratica* were described from material collected on the Huntington Forest and are not known to occur else-

where; *Bacidia subacerina*, *Chaenothecopsis pusiola*, *Calicium asik-kalense*, *Calicium subpusillum*, and *Calicium Floerkei* var. *parasitaster* are known from no other North American station; in North America *Lecidca delincta*, *L. hypopta*, *L. phylliscina*, and *L. plebeja* are known from the Newcomb and other Adirondack stations only, in North America; and *Hydrothyria venosa*, while not a rare lichen, has been collected by the writer in the Adirondacks only from the Newcomb station.

Full descriptions of almost all of the species and illustrations of some of them can be found in the works of Fink ('35) and Lowe ('39). The nomenclature used for the genus *Lecidea* is that of Lowe ('39), and for nearly all of the remaining species that of Fink ('35). A few species not treated by Fink follow the nomenclature of Zahlbruckner ('34). A number of collections still remain undetermined, and it is hoped that these, and collections of additional species, may be reported at some future time.

Acknowledgments are due Miss Joyce Hedrick (Mrs. Volney H. Jones) for the determinations of certain species as indicated in the list.

The field work and the subsequent preparation of this report has been done under the supervision of the Department of Forest Botany and Pathology in cooperation with, and according to the established policy of, the Roosevelt Wildlife Forest Experiment Station. This policy provides a means of utilizing specialists in allied fields of wildlife management as the occasion demands.

ANNOTATED LIST

PYRENOCARPEAE

Pyrenulales

VERRUCARIACEAE

Staurothele clopima (Wahl.) T. Fries. On rock along Round Pond; infrequent.

Staurothele umbrina (Ach.) Tuck. On rock in brook bed; infrequent.

Thelidium pyrenophorum (Ach.) Mudd. On rock in brook bed; infrequent.

Verrucaria aethiobola Wahl. On rock in brook bed; infrequent.

Verrucaria margacea Wahl. On rock in brook bed; frequent.

Verrucaria nigrescens Pers. On rocks in woods and on open slopes; frequent.

- Verrucaria rupestris** Schrad. On rocks on open slope; infrequent.
Verrucaria striatula Wahl. On rocks in brook bed; infrequent.
Verrucaria viridula (Schrad.) Ach. On rocks on open slope; occasional.

DERMATOCARPACEAE

- Dermatocarpon aquaticum** (Weis.) Zahlbr. On rock in brook bed; frequent.
Dermatocarpon miniatum (L.) Mann. On rock in swamp; frequent.

GYMNOCARPEAE

Caliciales

CALICIACEAE

- Caliciella arenaria** (Hampe) Fink. On the thallus of *Lecidea lucida*; abundant locally.
Calicium abietinum Pers. On decorticate coniferous wood; frequent.
Calicium asikkalense Vainio. On bark and decorticate wood in swamp; rare; not previously reported from North America.
Calicium Floerkei Zahlbr. var. **parasitaster** Bagl. & Carest. On the squamules of the primary thallus of *Cladonia incrassata* Floerke; rare. This variety has been reported in a previous paper (Lowe, '38).
Calicium populneum De Brond. On bark in swamp; rare, reported elsewhere in the United States from Illinois and California.
Calicium pusillum (Ach.) Floerke. On decorticate coniferous wood; infrequent. This determination is somewhat uncertain.
Calicium roscidum Floerke var. **trabinellum** (Ach.) Schaer. On decorticate coniferous wood; infrequent.
Calicium subpusillum Vainio. On decorticate coniferous wood; occasional; not previously reported from North America.
Calicium trachelinum Ach. On decorticate coniferous wood; infrequent.
Chaenotheca brunneola (Ach.) Müll. Arg. On decorticate coniferous wood; abundant.
Chaenotheca chrysocephala (Turn.) T. Fries. On coniferous bark; frequent.
Chaenotheca melanophaea (Ach.) Zwackh. On old wood; rare. This species has been reported by Lowe ('38).

Chaenothecopsis pusiola (Ach.) Vainio. On decorticate coniferous wood on an open slope; rare; not known elsewhere in North America. The spores of this specimen measured $4.5 \times 1.5-2.5 \mu$, smaller than as described by Vainio (Act. Soc. Fauna Flora Fennica 57, n.1, p. 70, 1927), but agreeing better with Rehm's measurements (in Rabenhorst, Kryptogamen Flora, Ed. 2, Vol. 3, p. 408, 1896). The stipes are often pale and transparent, as described by Rehm.

Coniocybe furfuracea (L.) Ach. On decorticate wood and over soil on upturned roots; frequent.

Mycocalicium parietinum (Ach.) Vainio. On decorticate coniferous wood; abundant.

Stenocybe major Nyl. On bark of balsam; occasional but very inconspicuous and easily overlooked.

Hysteriales

ARTHONIACEAE

Arthonia convexella Nyl. On hardwood bark; infrequent. Determination by Miss Hedrick by comparison with material in the Herbarium of the University of Michigan.

Arthonia lapidicola (Tayl.) Branth & Rostr. On rock in open places; infrequent.

Arthonia lurida Ach. On hardwood bark in woods; frequent.

Arthonia radiata (Pers.) Ach. On hardwood bark in woods; frequent.

Arthothelium taediosum (Nyl.) Müll. Arg. On hardwood bark in swamp; infrequent.

GRAPHIDACEAE

Graphis eulectra Tuck. On spruce bark; infrequent.

Graphis scripta (L.) Ach. var. **topographica** (Willd.) Zahlbr. On bark; frequent.

Lecanorales

DIPLOSCHISTACEAE

Conotrema urceolatum (Ach.) Tuck. On bark in woods; common.

Urceolaria scruposa (Schreb.) Ach. On rocks on open slope; common.

GYALECTACEAE

Microphiale diluta (Pers.) Zahlbr. On old wood and soil; frequent.

Microphiale lutea (Dicks.) Zahlbr. On old wood and on soil; frequent.

EPHEBACEAE

Ephebe lanata (L.) Vainio. On rock in brook bed; rare.

Ephebe solida Born. On rock in brook bed; rare.

COLLEMACEAE

Leptogium tenuissimum (Dicks.) E. Fries. On mossy log; rare.

Leptogium tremelloides (L.) S. F. Gray. At mossy bases of trees; common.

PANNARIACEAE

Hydrothyria venosa Russell. On wet rocks in brook bed; abundant here but not known to the writer from any other station in the Adirondacks.

Parmeliella lepidiota (Sommerf.) Vainio. On rock in woods; infrequent.

Pannaria leucosticta Tuck. On rocks in open places; frequent.

Placynthium flabelliforme (Tuck.) Zahlbr. On rocks in brook bed; infrequent. This species has been reported by Lowe ('38).

STICTACEAE

Sticta amplissima (Scop.) Rabh. On bark; common.

PELTIGERACEAE

Nephroma helveticum Ach. On thin soil over rock; frequent.

Nephroma laevigatum Ach. On thin soil over rocks; frequent.

Nephroma parile Ach. Over moss in woods; frequent.

Peltigera canina (L.) Willd. Over mosses in woods and on soil in burned-over areas; common.

Peltigera aphthosa (L.) Willd. On soil in woods; frequent.

Peltigera polydactyla (Neck.) Hoffm. On soil in woods; frequent.

Peltigera soorediata (Schaer.) Fink. On soil in burned-over area; infrequent.

LECIDEACEAE

- Bacidia chlorantha* (Tuck.) Fink. On bark of hardwood trees; common.
- Bacidia fuscorubella* (Hoffm.) Bausch. On hardwood bark; frequent.
- Bacidia incompta* (Borr.) Anzi. On coniferous bark in woods; infrequent. Determination by Miss Hedrick.
- Bacidia inundata* (E. Fries) Koerb. On rock and on decorticate wood along brooks; frequent.
- Bacidia Schweinitzii* (Tuck.) Schneid. On hardwood bark; common.
- Bacidia subacerina* Vainio. On hardwood bark; rare. Determination made from literature references only; if correctly determined new to North America.
- Bilimbia lignaria* (Ach.) Mass. On rotten wood and soil; occasional. Determination by Miss Hedrick.
- Bilimbia melaena* (Nyl.) Arn. On old or on carbonized wood; common.
- Bilimbia Naegelii* (Hepp.) Krempfh. On decorticate wood; frequent.
- Bilimbia trisepta* (Naeg.) Arn. On decorticate wood; rare.
- Catillaria globulosa* (Floerke) T. Fries. On hardwood bark in swamp; rare. Determination by Miss Hedrick.
- Catillaria Laureri* Hepp. On hardwood bark in woods; rare. Determination by Miss Hedrick on comparison with material in the Herbarium of the University of Michigan.
- Catillaria prasina* (E. Fries) T. Fries. On rotten wood; occasional. Determination by Miss Hedrick.
- Lecidea Adirondackii* H. Magn. On the underside of rocks on talus slopes; common.
- Lecidea arcuatula* (Arn.) Hue. On rocks; rare.
- Lecidea auriculata* T. Fries. On rocks; rare.
- Lecidea Berengeriana* (Mass.) T. Fries. On moss and soil; occasional.
- Lecidea botryosa* (E. Fries) T. Fries. On old and especially on charred wood; common.
- Lecidea brunneofusca* H. Magn. On rocks; occasional.
- Lecidea cinereoatra* Ach. On rocks; common.
- Lecidea cladonioides* (E. Fries) T. Fries. On old or more often on carbonized wood; common.
- Lecidea coarctata* (J. E. Smith) Nyl. On rock; common.

- Lecidea crustulata* (Ach.) Sprengl. On rock; uncommon.
- Lecidea delincta* Nyl. On rocks; occasional.
- Lecidea enteromorpha* (Flot.) Vain. On rocks; rare.
- Lecidea erratica* Koerb. On rocks; infrequent.
- Lecidea erratica* Koerb. var. *planetica* (Tuck.) Lowe. On rocks; infrequent.
- Lecidea erratica* Koerb. var. *paraclitica* (Nyl.) Lowe. On decorticate wood; rare.
- Lecidea euphorea* (Floerke) Nyl. On wood and bark; occasional.
- Lecidea flexuosa* (E. Fries) Nyl. On decorticate or charred wood, or rarely on bark; occasional.
- Lecidea Friesii* Ach. On old and especially on burnt wood; frequent.
- Lecidea fusca* (Schaer.) T. Fries var. *sanguineoatra* (Nyl.) T. Fries. On moss over bark; rare.
- Lecidea granulosa* (Ehrht.) Ach. On soil, decorticate wood, and bark; common.
- Lecidea hypopta* Ach. On decorticate wood; rare.
- Lecidea lucida* Ach. On rocks or rarely on bark and old wood; common.
- Lecidea melancheima* Tuck. On decorticate wood or rarely on bark; frequent.
- Lecidea myriocarpoides* Nyl. On decorticate wood; rare.
- Lecidea nemoralis* Lowe. On rocks; rare, and known only from this type locality.
- Lecidea phylliscina* Nyl. On rocks; rare.
- Lecidea plebeja* Nyl. On old wood; occasional.
- Lecidea scalaris* Ach. On old and especially on carbonized wood; common.
- Lecidea steriza* (Ach.) Vain. On rocks; common.
- Lecidea stigmathea* Ach. On rocks; rare.
- Lecidea suberratica* Lowe. On rock; rare, type locality and unknown elsewhere.
- Lecidea uliginosa* (E. Fries) Nyl. On soil and old wood; common.
- Lecidea vernalis* (L.) Ach. On moss and bark; common.
- Lecidea viridescens* (Schrad.) Ach. On rotten wood; common.
- Lecidea virginienensis* Calk. & Nyl. On rocks; infrequent.
- Lopadium pezizoideum* (Ach.) Koerb. On bark; common.
- Mycoblastus sanguinarius* (L.) Norm. On decorticate wood and bark; frequent.

Rhizocarpon disporum (Naeg.) Müll. Arg. On rocks in open places; common.

Rhizocarpon petraeum (Wulf.) Mass. On rocks in open places; common.

Rhizocarpon grande (Floerke) Arn. On rocks in open places; common.

Rhizocarpon obscuratum (Ach.) Mass. On rocks in open places; common.

Rhizocarpon Oederi (Web.) Koerb. On rocks; rare. This species has been reported by Lowe ('38).

Rhizocarpon plicatile (Leight.) A. L. Smith. On rocks on open slopes; frequent. This species has been reported by Lowe ('38).

CLADONIACEAE

Baeomyces rufus (Huds.) Rebent. On rock in woods; frequent.

Cladonia alpestris (L.) Rabenh. On soil in open places; frequent.

Cladonia bacillaris (Del.) Nyl. On soil; common.

Cladonia botrytes (Hag.) Willd. On bark of old stumps and logs; infrequent.

Cladonia coccifera (L.) Willd. var. **pleurota** (Floerke) Schaer. On rotten log along lake shore; frequent.

Cladonia cornuta (L.) Schaer. On soil in burned-over land; frequent.

Cladonia crispata (Ach.) Flot. On old wood and soil; common.

Cladonia cristatella Tuck. On soil in open areas; common.

Cladonia deformis (L.) Hoffm. On soil in woods and in burned-over land; frequent.

Cladonia delicata (Ehrh.) Floerke. On rotten decorticate log in swamp; infrequent.

Cladonia fimbriata (L.) E. Fries var. **coniocraea** (Floerke) Vainio. On soil; common.

Cladonia fimbriata (L.) E. Fries var. **nemoxyna** (Ach.) Vainio. On old logs and soil; infrequent.

Cladonia fimbriata (L.) E. Fries var. **ochrochlora** (Floerke) Vainio. On rotten wood; infrequent.

Cladonia fimbriata (L.) E. Fries var. **radiata** (Schreb.) E. Fries. On soil in burned-over area; rare.

Cladonia fimbriata (L.) E. Fries var. **subulata** (L.) Vainio. On soil over rock on open slope; rare.

Cladonia Floerkeana (E. Fries) Sommerf. On soil and old wood; common.

- Cladonia furcata** (Huds.) Schrad. On soil in burned-over area; common.
- Cladonia furcata** (Huds.) Schrad. var. **pinnata** (Floerke) Vainio. On thin soil; common.
- Cladonia furcata** (Huds.) Schrad. var. **racemosa** (Hoffm.) Floerke. On soil; common.
- Cladonia furcata** (Huds.) Schrad. var. **scabriuscula** (Del.) Vainio. On soil; frequent.
- Cladonia gracilis** (L.) Willd. var. **chordalis** (Floerke) Schaer. On soil; infrequent.
- Cladonia gracilis** (L.) Willd. var. **dilacerata** Floerke. On mossy soil; common.
- Cladonia incrassata** Floerke. On rotten log in woods; rare. This plant is described under the name *C. cristatella* var. *paludicola* Tuck. by Fink ('35), but the synonymy was published by Dr. A. W. Evans in *Rhodora* 34:129. 1932.
- Cladonia mitrula** Tuck. On old stump in burn; infrequent.
- Cladonia pityrea** (Floerke) E. Fries. On soil and rotten wood in open places; common.
- Cladonia pyxidata** (L.) Hoffm. On soil; common.
- Cladonia rangiferina** (L.) Web. On soil in open places; common.
- Cladonia squamosa** (Scop.) Hoffm. On soil; common.
- Cladonia squamosa** (Scop.) Hoffm. var. **denticollis** (Hoffm.) Floerke. On soil; frequent.
- Cladonia sylvatica** (L.) Hoffm. On soil in open places and in woods; common.
- Cladonia verticillata** Hoffm. On soil; frequent.
- Stereocaulon coralloides** E. Fries. On rock in open places; rare.
- Stereocaulon denudatum** Floerke. On rock; rare.
- Stereocaulon paschale** (L.) Hoffm. On thin soil over rocks; common.
- Stereocaulon pileatum** Ach. On rock; infrequent.
- Stereocaulon tomentosum** E. Fries. On thin soil in beaver clearing; common.

GYROPHORACEAE

- Gyrophora vellea** (L.) Ach. On rocks on talus slide; infrequent.

ACAROSPORACEAE

- Acarospora fuscata** (Schrad.) Arn. On rocks in open places; frequent.

Biatorella clavus (Lam. & DC.) T. Fries. On rock in open places; common.

Biatorella simplex (Dav.) Branth & Rostr. On rocks in open places; common.

PERTUSARIACEAE

Pertusaria multipuncta (Turn.) Nyl. On bark; common.

Pertusaria pertusa (L.) Tuck. On bark; common.

Pertusaria velata (Turn.) Nyl. On bark; frequent.

LECANORACEAE

Haematomma cismicum Belts. On bark of conifers; infrequent.

Icmadophila ericetorum (L.) Zahlbr. On rotten wood; common.

Lecanora cinerea (L.) Röhling. On exposed rocks; common.

Lecanora epulotica (Ach.) Leighton. On rocks along brook; rare.

Lecanora gibbosa (Ach.) Nyl. On exposed rocks; common.

Lecanora Hageni Ach. On exposed rocks; infrequent.

Lecanora pallida (Schreb.) Rabh. On bark in swamp; frequent.

Lecanora polytropa (Ehrh.) Rabh. On exposed rocks; infrequent.

Lecanora rubina (Vill.) Ach. On exposed rocks; infrequent.

Lecanora subfusca (L.) Ach. var. *campestris* Rabh. On bark, rock, and decorticate wood; frequent.

Lecanora subfusca (L.) Ach. var. *coilocarpa* Ach. On bark; frequent.

Lecanora varia (Hoffm.) Ach. On exposed rocks; common.

Ochrolechia pallescens (L.) Mass. On bark in swamp; infrequent.

PARMELIACEAE

Cetraria fahlunensis (L.) Schaer. On thin soil over rock in open places; infrequent.

Cetraria lacunosa Ach. On twigs; common.

Cetraria Oakesiana Tuck. On bark; common.

Cetraria saepincola (Ehrh.) Ach. On bark on top of Goodnow Mountain; infrequent.

Parmelia caperata (L.) Ach. On bark; common.

Parmelia conspersa (Ehrh.) Ach. On rocks in open places; common.

Parmelia olivacea (L.) Ach. On bark; common.

Parmelia perforata (Wulf.) Ach. On bark; infrequent.

- Parmelia perlata** (L.) Ach. On bark and over thin soil; frequent.
Parmelia pertusa (Schränk.) Schaer. On bark; common locally.
Parmelia physodes (L.) Ach. On bark; common.
Parmelia quercina (Willd.) Vainio. On hardwood bark; frequent.
Parmelia rudecta Ach. On bark; frequent.
Parmelia saxatilis (L.) Ach. On bark; common.
Parmelia soorediata (Ach.) Röhling. On exposed rocks; infrequent.
Parmeliopsis aleurites (Ach.) Nyl. On decorticate wood; frequent.
Parmeliopsis ambigua (Wulf.) Nyl. On decorticate wood; frequent.

USNEACEAE

- Evernia ceratea** (Ach.) Zopf. var. **Cladonia** (Tuck.) Fink. On branches; common at higher elevations.
Evernia prunastri (L.) Ach. On trees; common. Dr. A. H. Magnusson of Göteborg, Sweden, has identified part of the writer's material as *E. mesomorpha* Nyl. Although T. Fries, Lich. Scand., p. 32, placed the last in synonymy with *E. prunastri*, the species now appears to be recognized in Europe under the name *E. mesomorpha* or as *E. thamnodes* (Fw.) Arn., but the basis for separation is unknown to the writer.
Ramalina calicaris (L.) Röhling. On bark; frequent.
Ramalina farinacea (L.) Ach. On bark in exposed places; infrequent.
Ramalina pollinaria (Westr.) Ach. On hardwood bark; infrequent.
Usnea barbata (L.) Wigg. On branches; common.
Usnea florida (L.) Web. On branches; common.
Usnea plicata (L.) Wigg. On branches; common.

CALOPLACACEAE

- Caloplaca aurantiaca** (Lightf.) T. Fries. On exposed rocks; infrequent.
Caloplaca elegans (Link) T. Fries. On bark in burned-over area; common.

BUELLIACEAE

- Buellia badioatra** (Floerke) Koerb. On rocks; frequent.
Buellia colludens (Nyl.) Arn. On rocks in open places; common.

- Buellia parasema* (Ach.) De Not. On bark; common.
Buellia stigmaea Tuck. On exposed rock; infrequent.
Buellia Schaereri De Not. On decorticate wood; infrequent.
Rinodina sophodes (Ach.) Mass. On rock; common.

PHYSICIACEAE

- Anaptychia aquila* (Ach.) Mass. On trees; occasional.
Anaptychia speciosa (Wulf.) Mass. On trees; frequent locally.
Physcia astroidea (Clem.) Nyl. On exposed rock; uncommon.
Physcia caesia (Hoffm.) Hampe. On rock and on bark; infrequent.
Physcia endochrysea (Hampe) Nyl. On hardwood bark in woods; common.
Physcia pulverulenta (Schreb.) Nyl. On bark; frequent.
Physcia stellaris (L.) Nyl. On mossy soil and bark; common.
Physcia virella (Ach.) Flagey. On bark; common.
Pyxine soorediata (Ach.) E. Fries. On bark; infrequent.

REFERENCES

FINK, BRUCE

1935. The Lichen Flora of the United States. Completed for publication by Joyce Hedrick. University of Michigan Press, Ann Arbor, Michigan.

LOWE, JOSIAH L.

1938. The Distribution of Some Lichens in North America. *Papers Mich. Acad. Sci., Arts and Lett.* 23: 163-169.
1939. The Genus *Lecidea* in the Adirondack Mountains of New York. *Lloydia* 2: 225-304.

SPIKER, C. J.

1933. Some Late Winter and Early Spring Observations on the White-tailed Deer of the Adirondacks. *Roosevelt Wildlife Forest Exp. Sta., Wildlife Bull.*, Vol. 6, No. 2, pp. 327-385.

ZAHLEBRUCKNER, A.

- 1922-1934. *Catalogus Lichenum Universalis*. Vols. 1-9. Gebrüder Borntraeger, Leipzig.

PART VI. A PRELIMINARY LIST OF FUNGI FROM THE HUNTINGTON FOREST

By

ALEXANDER H. SMITH

Associate Curator, University of Michigan Herbarium

The following report on the mycological flora of the Huntington Forest is based on studies conducted by the writer during August, 1934. The most intensive collecting was done near the Catlin Lake headquarters in the area between Chase Brook and Corner Pond, but both shores of Catlin Lake were carefully surveyed. The shores of Arbutus Lake and the area between Long Pond and Arbutus Lake were studied almost as intensively as the area near Corner Pond. Likewise collections were made on trips to Deer Lake, and to the slopes of Catlin and Panther mountains.

The weather had been dry most of July and there was not enough precipitation during August to cause fleshy fungi to fruit in any quantity. Because of the dry weather, agaric collecting was limited to three types of habitat—moist decaying logs, bogs and marshes, and moist areas along streams. The latter were very favorable habitats for Discomycetes. Due to the limited nature of the fungous flora during this period, the following list is to be regarded as strictly preliminary. Collecting was limited to Discomycetes, certain of the Hypocreales, and especially to the Agaricaceae, because of individual interest. The following list of agarics, however, is not at all representative either as to genera or species of the flora of the tract. For this reason all collecting data have been omitted.

Certain of the collections cannot be identified until additional material is available as they are scanty and very likely atypical.

Most of the fungi in the following list of 118 species are the ones usually encountered during a dry season, but there are several interesting finds, among them *Lououmidotus irregularis* and *Cordyceps stylophora*. *Naucoria Myosotis* was one of the most outstanding agarics collected. It was abundant in a small boggy area between Arbutus Lake and Long Pond during most of August, although it appears to be very rare in North America. The only good collection of it the writer has made is the one upon which this report is based. Another interesting find was made in the vicinity of Corner Pond. It was a previously undescribed species

of *Cordyceps* and has since been published under the name *C. viperina* Mains in *Mycologia* 29: 674-677. 1937.

The nomenclature followed for the agarics is essentially that of Kauffman and Peck, for the operculate *Discomycetes* that of Seaver, and for the inoperculate *Discomycetes* that of Rehm.

Acknowledgments are due Prof. E. B. Mains for determination of the species of *Cordyceps* and to Dr. B. B. Kanouse for the *Discomycetes*. A complete set of the collections has been deposited in the Herbarium of the University of Michigan and a partial duplicate set in the Herbarium of the New York State College of Forestry at Syracuse University.

ASCOMYCETES

DISCOMYCETES

<i>Belonium biatorinum</i> Rehm	<i>Leotia chlorocephala</i> (Scop.)
<i>Catinella nigro-olivacea</i> (L.v. S.) Durand	Pers.
<i>Dasyscyphella cassandrae</i> Trans.	<i>Leotia lubrica</i> Schw.
<i>Helotium albidum</i> (Rob.) Pat.	<i>Mollisia benesauda</i> (Tul.)
<i>Helotium citrinum</i> (Hedw.) Fr.	Phill.
<i>Helotium triste</i> Sacc.	<i>Mollisia caespiticia</i> Karst.
<i>Helvella elastica</i> Bull.	<i>Mollisia melaleuca</i> (Fr.) Sacc.
<i>Helvella mitra</i> L.	<i>Ombrophila umbonata</i> Karst.
<i>Helvella infula</i> Schaeff.	<i>Orbilia botulispora</i> v. Höh.
<i>Hyaloscypha minutella</i> Boud.	<i>Patella albida</i> (Schaeff.) Seaver
<i>Ionomidotus irregularis</i> (L.v. S.) Durand	<i>Patella albocincta</i> (B. & C.)
	Seaver
	<i>Patella lusatae</i> (Cke.) Seaver
	<i>Patella scutella</i> (L.) Morgan
	<i>Patella setosa</i> (Nees) Seaver

PYRENOMYCETES

<i>Cordyceps militaris</i> Link.	<i>Cordyceps stylophora</i> Pk.
<i>Cordyceps viperina</i> Mains (type collected on Huntington Forest)	

BASIDIOMYCETES

THELEPHORACEAE

Craterellus cornucopioides Fr.

HYDNACEAE

- | | |
|---------------------------------|----------------------------------|
| <i>Hydnum caput-ursi</i> Fr. | <i>Hydnum laciniatum</i> Leers. |
| <i>Hydnum coralloides</i> Scop. | <i>Hydnum septentrionale</i> Fr. |

BOLETACEAE

- | | |
|----------------------------|-----------------------------|
| <i>Boletus felleus</i> Fr. | <i>Boletinus pictus</i> Pk. |
|----------------------------|-----------------------------|

AGARICACEAE

- | | |
|--|---|
| <i>Agaricus echinatus</i> Fr. | <i>Eccilia nivea</i> Pk. |
| <i>Amanita flavoconia</i> Atk. | <i>Entoloma cuspidatum</i> Pk. |
| <i>Amanita verna</i> (Fr.) Quél. | <i>Entoloma salmoneum</i> Pk. |
| <i>Amanitopsis vaginata</i> var.
fulva Sacc. | <i>Galerina sphagnum</i> (Fr.)
Kühner |
| <i>Cantharellus aurantiacus</i> Fr. | <i>Hygrophorus Cantharellus</i>
Schw. |
| <i>Cantharellus infundibuliformis</i> Fr. | <i>Hygrophorus borealis</i> Pk. |
| <i>Clitocybe cyathiformis</i> f.
americana Kauff. | <i>Hypholoma hirtosquamulosum</i>
Pk. |
| <i>Clitocybe ectypoides</i> Pk. | <i>Hypholoma hydrophyllum</i>
(Fr.) Quél. |
| <i>Clitocybe piceina</i> Pk. | <i>Hypholoma sublateralium</i>
(Fr.) Quél. |
| <i>Collybia abundans</i> Pk. | <i>Inocybe fastigiata</i> (Fr.) Quél. |
| <i>Collybia confluens</i> (Fr.) Quél. | <i>Inocybe hystrix</i> (Fr.) Karst. |
| <i>Collybia dryophila</i> (Fr.) Quél. | <i>Inocybe subochracea</i> Pk. |
| <i>Collybia exsculpta</i> (Fr.) Gillet | <i>Laccaria laccata</i> (Fr.) Berk. &
Br. |
| <i>Collybia maculata</i> (Fr.) Quél. | <i>Lactarius deceptivus</i> Pk. |
| <i>Collybia palustris</i> (Pk.) Smith | <i>Lactarius deliciosus</i> Fr. |
| <i>Collybia platyphylla</i> (Fr.)
Quél. | <i>Lactarius fuliginosus</i> Fr. |
| <i>Collybia radicata</i> (Fr.) Quél. | <i>Lactarius griseus</i> Pk. |
| <i>Collybia radicata</i> var. <i>furfuracea</i> Pk. | <i>Lactarius helvus</i> Fr. |
| <i>Cortinarius americanus</i> Smith | <i>Lactarius lignyotus</i> Fr. |
| <i>Cortinarius armillatus</i> Fr. | <i>Lactarius piperatus</i> Fr. |
| <i>Cortinarius delibutus</i> Fr. | <i>Lactarius trivialis</i> Fr. |
| <i>Cortinarius evernius</i> Fr. | <i>Lactarius uvidus</i> Fr. |
| <i>Cortinarius cinnamomeus</i> Fr. | <i>Lactarius vellerius</i> Fr. |
| <i>Cortinarius lacorum</i> Smith | <i>Lentinus cochleatus</i> Fr. |
| <i>Cortinarius montanus</i> Kauff. | <i>Lentinus vulpinus</i> Fr. |
| <i>Crepidotus applanatus</i> (Fr.)
Karst. | <i>Marasmius foetidus</i> Fr. |

- Mycena haematopoda* (Fr.) Quél.
Mycena leaiana (Berk.) Sacc.
Mycena pelianthina (Fr.) Quél.
Mycena radicatella Pk.
Naucoria bellula Pk.
Naucoria firma Pk.
Naucoria Myosotis (Fr.) Quél.
Naucoria serrulata Murr.
Nolanea dysthales (Pk.) Murr.
Omphalia campanella (Fr.) Quél.
Omphalia chrysophylla (Fr.) Gillet
Omphalia Gerardiana Pk.
Panus stipticus Fr.
Pholiota acericola Pk.
Pholiota albocrenulata Pk.
Pholiota caperata Gillet
Pholiota erinacella Pk.
Pholiota flammans (Fr.) Quél.
Pholiota intermedia Smith
Pholiota squarrosoides Pk.
Pleurotus ostreatus (Fr.) Quél.
Pluteus admirabilis Pk.
Pluteus cervinus (Fr.) Quél.
Pluteus chrysophaeus (Fr.) Quél.
Pluteus granularis Pk.
Pluteus longistriatus Atk.
Pluteus tomentosulus Pk.
Psilocybe squalidella var. *macrospora* Pk.
Russula bifida (Bull.) Schrot.
Russula rubrotincta Burl.
Russula variata Bann. & Peck.
Stropharia depilata (Fr.) Sacc.
Stropharia psathyroides Lange

ANNALS

ROOSEVELT WILDLIFE ANNALS, VOL. 2, No. 1. January, 1929.

1. The Red Squirrel: Its Life History and Habits, with Special Reference to the Adirondacks of New York and the Harvard Forest. R. T. Hatt

ROOSEVELT WILDLIFE ANNALS, VOL. 2, No. 2. October, 1929.

1. The Ecology of Trout Streams in Yellowstone Park.....
Richard A. Muttkowski
2. The Food of Trout Stream Insects in Yellowstone Park.....
Richard A. Muttkowski and Gilbert M. Smith

ROOSEVELT WILDLIFE ANNALS, VOL. 2, Nos. 3 and 4 (Double Number). January, 1932.

1. Ornithology of the Oneida Lake Region; With Reference to the Late Spring and Summer Seasons.....Dayton Stoner

ROOSEVELT WILDLIFE ANNALS, VOL. 3, No. 1. January, 1932.

1. Parasites of Oneida Lake Fishes. Part I. Descriptions of New Genera and New Species.....H. J. Van Cleave and J. F. Mueller

ROOSEVELT WILDLIFE ANNALS, VOL. 3, No. 2. October, 1932.

1. Parasites of Oneida Lake Fishes. Part II. Descriptions of New Species and Some General Taxonomic Considerations, Especially Concerning the Trematode Family Heterophyidae.....
Justus F. Mueller and Harley J. Van Cleave
2. *Trichodina renicola* (Mueller, 1931), a Ciliate Parasite of the Urinary Bladder of *Esox niger*.....Justus F. Mueller

ROOSEVELT WILDLIFE ANNALS, VOL. 3, Nos. 3 and 4 (Double Number). July, 1934.

1. Parasites of Oneida Lake Fishes.
Part 3. A Biological and Ecological Survey of the Worm Parasites.
H. J. Van Cleave and Justus F. Mueller
Part 4. Additional Notes on Parasites of Oneida Lake Fishes, including Descriptions of New Species....Justus F. Mueller

ROOSEVELT WILDLIFE ANNALS, VOL. 4, No. 1. December, 1935.

1. Studies on Some of the Small Mammals of Central New York.....
M. T. Townsend

ROOSEVELT WILDLIFE ANNALS, VOL. 4, No. 2. May, 1936.

1. Studies on the Bank Swallow, *Riparia riparia riparia* (Linnaeus).....
Dayton Stoner

